

GENERAL MOTORS' PLANS: Past...Present...Future

MARCH 1956 25c

MOTOR TREND

3 ROAD TESTS:

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DODGE- What's under the
"look of success"?

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New Spark Plug Invention!

SELF-CLEANING, 21 POINT

Nickel-Cadmium SPARK PLUG



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★ 9 MPH GREATER SPEED

★ 15% FUEL SAVING

Spark arcs
from 21 or
more points

THE INSULATOR...High-voltage patented Ebanite® insulator, developed and used only by Life-Long, has a hardness in the same range as precious jewels. You can identify Life-Long Plugs by the black insulators. This costly new material has 20 times higher thermal conductivity than ordinary insulators.

THE BUSINESS END...New type solid electrodes have no points to burn off! The "business" end of Life-Long Plug utilizes unique nickel-cadmium electrodes to produce fuller, hotter spark arcing from 21 or more points and spreading around the full 360° circle. Life-Long Plugs have approximately 40 times more firing surface than conventional one-electrode plugs, giving more efficient, even combustion.

THE SHELL...Made of a new alloy developed specifically for Life-Long by modern metallurgy. Unlike old style 2-piece shells, the Life-Long shell is one precision-machined piece fused to the Ebanite insulator under tremendous hydraulic pressure and induction to make a positive seal. This prevents "blow-by," major cause of failure in plugs with 2-part shells.

LIFE-LONG NICKEL-CADMIUM PLUGS ARE GUARANTEED TO:

- | | |
|----------------------------------|------------------------|
| 1—End plug replacement costs | 4—Improve acceleration |
| 2—Step up engine horsepower | 5—Give smoother idling |
| 3—Increase your gasoline mileage | 6—End engine knock |
| | 7—Never need regapping |

With the introduction of sensational new-type Life-Long Nickel-Cadmium Plugs, the spark plug is no longer the "most troublesome, most often-replaced" part of your automobile. In fact, you will never have to replace the plugs in your car once you install a set of Life-Long Plugs!

LIFE-LONG—WORLD'S ONLY PLUG WITH FULL-CIRCLE FIRING

Life-Long's revolutionary "ring of fire" principle is the first major improvement in plugs in 25 years. Instead of small "spot" spark arcing between the same two points, the Life-Long Plug makes a hot spark 400% to 500% greater in volume, spread around the entire circumference of the solid electrode. The piston stroke of today's high-compression engines is so powerful that it can actually "blow out" the spark produced by old type plugs. Blowing out is impossible with Life-Long's full-circle spark.

Heat is spread around the full perimeter, resulting in cooler electrode temperature. The causes of wear, burning and insulator failure are eliminated.

SELF-CLEANING. Because the Life-Long Plug fires simultaneously inside and outside the shell, fuel mixture is ignited at the same time a powerful turbo wiping action, created by the piston stroke, burns and blows out the carbon. Power loss is prevented and you get greatly increased horsepower and gasoline mileage. In a series of road tests, some cars have shown 10 horsepower gain, mileage increase 15% and more.

OIL INDUSTRY RESEARCH DISCOVERS AMAZING ELECTRODE SECRET

Research engineers of leading oil companies recently revealed that nickel-cadmium is the most perfect material yet developed for the electrodes of spark plugs designed for modern high-compression, internal combustion automobile engines. The nickel-cadmium solid electrode of the Life-Long Plug has ideal characteristics of extremely high conductivity and durability, being able to withstand temperatures of 3500° indefinitely.

BUILT-IN CADALLOY CATALYST

These same research engineers also discovered that a new alloy (which we call Cadalloy) introduced into the combustion chamber of a plug, acts as a catalyst to produce the most efficient fuel combustion. Life-Long Plugs are the first to use this important discovery!

ATTENTION, OWNERS OF 12-VOLT AUTOS. Conventional plugs, designed for 6-volt electrical systems, do not function well in modern 12-volt systems. Life-Long Plugs are designed to handle twice the voltage capacity of 6-volt systems. If your car has a 12-volt system, don't be misled—only Life-Long gives you full plug efficiency!

LIFE-LONG PLUGS ACTUALLY COST LESS! A set of Life-Long Nickel-Cadmium Plugs will outlast six or more sets of ordinary plugs. You end replacement costs completely. Yet the set of 6 Life-Long Plugs costs only \$8.95 each. Set of 8 only \$11.95.

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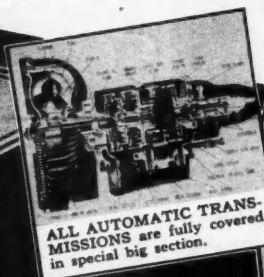
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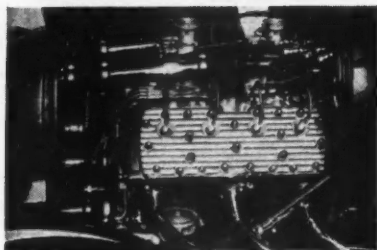


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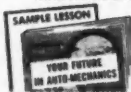
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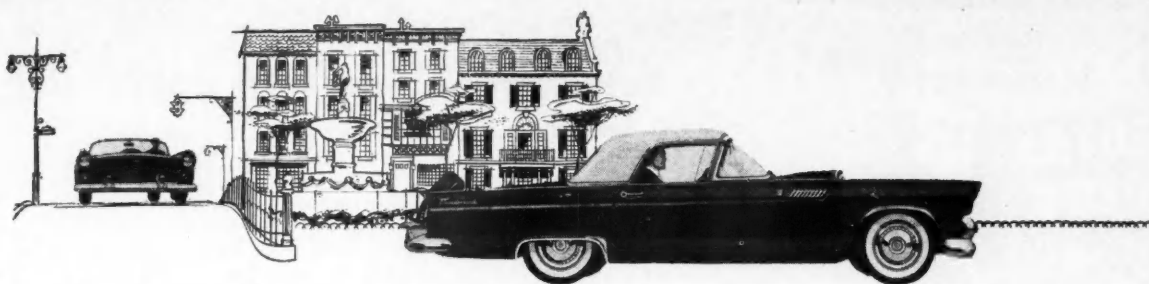
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the cover

So you already know what make of car you are going to buy. Are you in a dilemma as to which body style to choose? To help you decide, MT has made a comprehensive survey of the various body styles. Cover illustration by Charles Davison, well-known Detroit artist.

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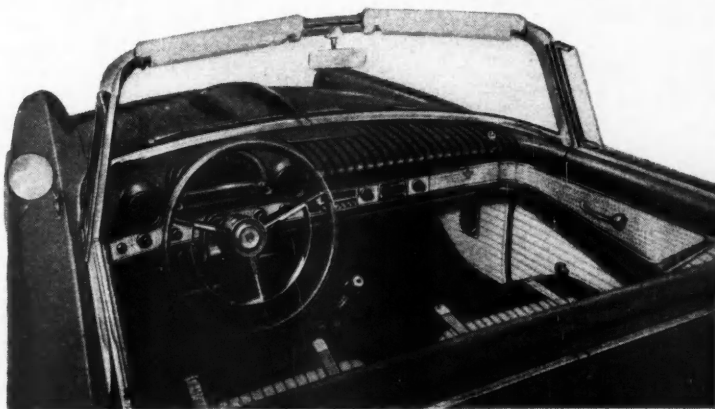
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EDITORIAL

How Much Should It Cost? Use

WITH INCREASING REGULARITY we at MOTOR TREND are asked the question, "How much should a Blotz 8 cost me? I live in Anywhere, U.S.A."

One of the strongest reasons for confusion in regard to new-car prices is that the most-publicized price is only one that each manufacturer suggests to all his dealers. The important point about this oft-quoted figure is that the dealer does not have to sell his car at this price—he can sell it above or below the suggested one and be within his legal rights.

We all see prime examples of this in our local newspapers and on TV, and we constantly hear them on the radio. A particular make is advertised at one price by one dealer and at hundreds of dollars less by another. Tho this can sometimes be attributed to advertising a different model, more often than not the reason is that the 1st dealer is selling the car at a price commensurate with his operation, whereas the "volume" dealer sells at less profit per unit, making his money on volume. Many smaller dealers are asking that this disparity be erased by having the government control prices to make them uniform thruout the country. This wouldn't change anything, for volume dealers would then simply offer larger trade-in allowances for the same car.

In the meantime you can make certain that you are paying a legitimate price for a new car by asking around. The majority of dealers are honest and will give you the price without a struggle. When you get their figures, be sure that you are getting quotes on the same model with the same accessories, minus your trade-in. The more factors there are, the more chance for disparity in prices, and the more chance for you to be thoroly confused before you even get started.

Don't get confused by trick sales gimmicks that are sometimes employed by unethical dealers. One of the latest of these methods of providing you with "the best deal in town" is to advertise, "Our cars are yours at 5 per cent above cost." A potential customer walks in, is told that he can have a new car at 5 per cent above cost, but since the mark-up is so low they cannot accept a trade-in at other than wholesale. The customer is so thrilled over the "5 per cent above" that he doesn't object too strenuously until he checks with another new owner of the same make and finds that he got his new car at the same price, but with the normal (or retail) trade-in. At this point he is ready to scream to a lawyer. To his chagrin the dealer fights the fraud charge on the following basis: "5 per cent above cost" is not above invoice cost, but above the cost of the car, employees' salaries, rent, advertising, and other business expenses. In other words, it is "5 per cent above cost of operating the business."

This matter of trade-ins is one that sometimes determines the price of your new car; the price can fluctuate on a sliding scale according to the trade-in. If you are offered several hundred dollars more by one dealer than you've been quoted elsewhere, compare the price of the car you are bargaining for. You may be surprised to find that the previously proffered \$1000 trade-in instead of \$600 you were offered elsewhere has artificially bumped up the price of the new car to \$3000 instead of \$2400.

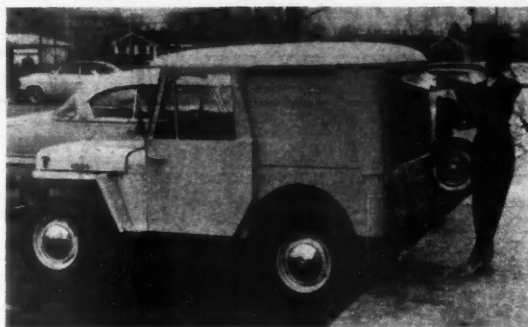
So what do you do to make certain that the price you're asked to pay for your new car is the one you should be paying? We'll assume that you've found the car you want and are negotiating with the dealer of your choice, so the 1st thing to do is to get out your pencil and paper. Then, check each of the points on the opposite page, slowly and carefully. Don't forget, you're making what will probably be the 2nd biggest investment of your life.

If you fill out the guide properly, you will not only have a clearer picture of what your new car is going to cost, but also where your money is being spent. Another important aspect is that after filling it out, if you are not satisfied with the figures obtained at one dealership, you can use it as a comparison against what some other dealer will offer you. With this knowledge you will be equipped to get a better bargain; just don't become like

This Checklist

the cynic who "knows the price of everything and the value of nothing."—Walt Woron

1. List the base cash selling price, minus tax, license, and accessories. \$ _____
2. List the major accessories on your car and their individual prices. radio _____ heater _____ automatic transmission _____ or overdrive _____ power brakes _____ power steering _____ air conditioning _____
3. List the individual prices of minor accessories on the car, such as whitewall tires, tinted glass, windshield washers, etc. It is wise here to list them separately, even tho some of them might be covered in a "group." In this event, ask the dealer to give you individual prices. _____
4. Total items 1, 2, and 3, then add sales tax. (Note that sales tax is to be determined on the total price and before down payment has been deducted from the selling price.) _____
5. From the total figure of item 4 deduct the trade-in value of your car, and/or additional cash down payment. _____
6. Add other fees, such as license _____ preparation charges _____ registration fee _____ and others _____ but get an explanation for each additional "other" charge. _____
7. List insurance premiums (if you want to buy your insurance thru the car dealer) such as fire and theft _____ comprehensive _____ collision _____ property damage and public liability _____
8. Total items 5, 6 and 7. This is the total cash balance of the car and the amount that will have to be financed. _____
9. List the finance charges for carrying the balance shown in item 8. _____
10. Add items 8 and 9. This is the contract balance to be paid off in monthly installments. _____



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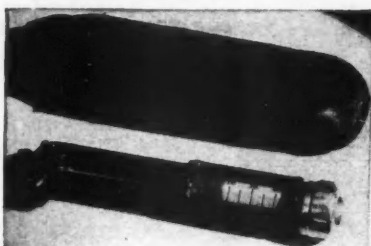
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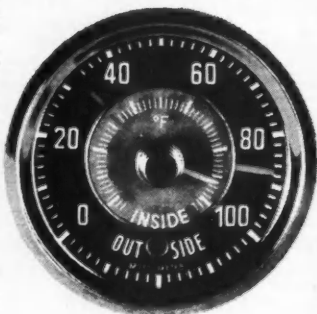
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drivescription



RIDING ON AIR

ONE OF THE most interesting aspects of our job is the rare opportunity to drive a prototype of the future. In this case, the future was hidden under the familiar outlines of a 1955 Nash Ambassador test car owned by the Monroe Auto Equipment Co.

Installed was Monroe's new air-hydraulic suspension system and even in the experimental stage, a car so equipped is a ride revelation. With project engineer Don Lipp (at left in photo; Don MacDonald at right—Ed.), we went barreling over back country roads at speeds that startled wayside chickens. They seemed like mighty smooth roads until we tried the course at the same speeds in a conventionally sprung '55 Plymouth, a car that rides softly by normal standards.

The system consists essentially of an air-filled, telescoping cylinder at each wheel incorporating a leveling valve and an integral hydraulic shock absorber, plus a centrally mounted reservoir tank and an engine-driven compressor. Lag built into the leveling devices keeps them from getting confused by road variations, but they (unlike Packard's) will

take over under uneven loads, such as a very heavy man in one corner of the rear seat. The shocks are regular Monroe units, but they take advantage of the available air pressure to "supercharge" them, eliminating aeration of the fluid and the consequent fade of shock resistance.

The test car had been deliberately calibrated to give a soft ride, even by current standards. It could best be described as pillowy, and cornering ability suffered accordingly. However, the units (or shocks) can be set up to any degree of firmness merely by changing calibration at time of manufacture.

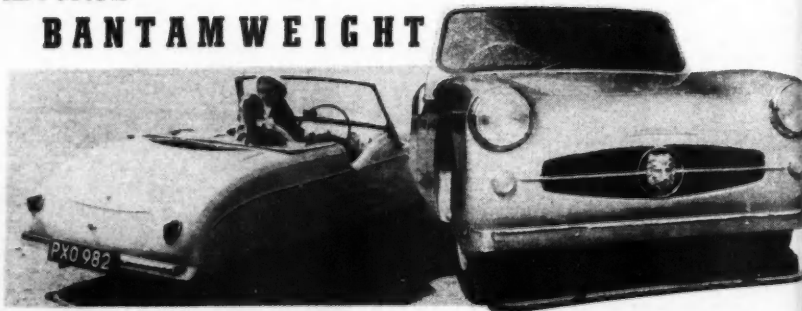
We hope you, too, get in an air-based Nash soon, maybe 1957. —Don MacDonald



ROBERT KOONTZ

British

BANTAM WEIGHT



Three wheels support the London-built Powerdrive, a nicely styled car with the emphasis on economy. The 2-cylinder, 2-stroke, 19.6-cubic-inch engine develops 15 hp at 4800 rpm to give speeds up to 65 miles per hour with 78 miles per gallon; 3-wheel hydraulic brakes stop the aluminum and steel car

IF YOU WANT BETTER PICKUP AND POWER plus big gas savings...please read this ad!

**Amazing new gasoline pressure regulator,
pulsation dampener, lifetime fuel filter,
carburetor protector employs entirely new automotive
engineering principles, gives results never
before possible in new or old cars!**



**Are you one of the hundreds of thousands of motorists
troubled with rough idling, dying, vapor lock, jerky acceleration,
difficult starting, traffic stalling, carburetor wear, poor gas mileage,
excessive gasoline odors in the car?**

Then you'll want to read this ad very carefully.

Whether your car is factory new or years old, Mileage Minder
positively promises quick help.

Yes, Mileage Minder was developed to meet the urgent need for a
continuous, clean, non-pulsating supply of fuel at the carburetor...
to lick the serious fuel waste and performance problems of later
model high-speed engines fed by present wasteful, pulsating types
of fuel pumps.



1. Stops Flooding, Saves Gas—Pressure Regulator... maintains uniform fuel pressures, prevents flooding and gas waste and assures maximum economy and performance at high or low speeds.

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3. Traps All Dirt and Metal Particles—Perma-Life Fuel Filter... the micro-porous sintered bronze filter disc removes ALL dirt, never needs replacement, and always assures clean, pure fuel. Tiny metallic particles dislodged from factory welded gas tanks, and other new parts, are trapped—they can't clog jets, can't jam carburetor needles—flooding, stalls and gas waste at high speeds are eliminated. A very important point!

4. Ends Vapor Lock... Vapor dome employs new principle to trap vapor-locking gasses.

5. Beautify your engine... Mileage Minder is a picture of proud polished-chrome engineering skill.

If you'd like a quick and positive power increase... and if you'd like to stop gas waste, flooding, stalling, vapor lock, carburetor wear... if you'd like to do all of these things for your new or old car, then fill out the no-risk coupon on this page, right now while this magazine is in your hand.

You'll find Mileage Minder simple and easy to install in a matter of minutes, with end wrench or pliers. Easy-to-follow instructions. Mileage Minder is fool proof for a lifetime of car service. No adjustments or worn out parts.

Remember, satisfaction is absolutely guaranteed, with no strings attached. If you aren't absolutely amazed and pleased, just return Mileage Minder and your money and postage will be promptly refunded, without question.

MR. DEALER AND WHOLESALE—Mileage Minder will quickly and easily solve many of your common tune-up and maintenance problems, such as flooding, poor gas mileage on both new and older model cars. Only one number to stock—for all popular cars including 1936 models. Free convincing displays. Write now!

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- C.** Vapor-locking gasses are harmlessly trapped in vapor dome.
- D.** A steady, clean, economical flow of gasoline is delivered to the carburetor.

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What Engineers Say: "Mileage Minder has been thoroughly tested, and has gained my unqualified approval. It does everything claimed for it and more." **Edmund D. Carlson, A.E.E. Engineer**



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SPOTLIGHT ON DETROIT

by Jim Lodge

THIS MONTH'S SPOTLIGHT not only focuses attention on Detroit, but throws additional beams of light onto the cities of Chicago and New York. There, as we go to press, manufacturers are previewing their latest "dream cars."

AT CHICAGO'S AUTO SHOW the public got an insight into future styling thinking from Detroit by its 1st peek at Packard's Predictor (see page 54), Mercury's X-M Turnpike Cruiser (page 56), and Chrysler's Plainsman wagon (page 34).

MEANWHILE, BACK IN NEW YORK, preparations were being made for the 1st public showing of General Motors' newest Motorama creations: Chevrolet's Impala, Pontiac's Club de Mer, Oldsmobile's Golden Rocket, Buick's Centurion, Cadillac's Eldorado Brougham Town Car (a newer version of MT's April '54 cover car), and GM's Firebird II. (See pages 18-19.)

AND FROM DETROIT comes the announcement of 4 new cars by the Chrysler Corp.: Plymouth Fury, Dodge 500, DeSoto Adventurer, Chrysler 300-B.



THE PLYMOUTH FURY is without a doubt the hottest (see "Motor Sports," page 20), most stable Plymouth produced to date. In our brief encounter with the new model, it showed sure-footed roadability, typically-Plymouth ease of handling (it had power steering), and acceleration in the under-9-seconds range (less than 10.5 seconds to an indicated 65 with 3 passengers, heavy movie equipment aboard).

IT WAS OUR IMPRESSION that the camshaft used in this car was well engineered to meet the flexibility requirements of a high-performance passenger car, for it felt snappy at all speed ranges. The engine is a bored-and-stroked version of the 277-cubic-inch Hy-Fire V8, puts out 240 horsepower from 303-cubic-inch displacement. Compression ra-

tio is 9.25 to 1 (standard powerpack's ratio is 8.0 to 1); ignition timing is re-adjusted to accommodate the big-engine characteristics; the single 4-barrel carburetor has larger throats and jets than the stock Plymouth powerpack carb. Like the 200-hp V8, Fury's engine has mechanical valve lifters, but uses heavier valve springs to cope with higher revving, higher lifting camshaft.

COIL AND LEAF SPRINGS are lower, have a higher spring rate than standard springs, and lower the Fury more than an inch below comparable Plymouths; this spring revision, of course, is designed primarily to give stiffness in cornering rather than a stylish drop in car height. Oriflow shock absorbers are more like stiff, export-type shocks, and the front-end swaybar is heavier than usual. A beefed-up driveshaft, universal joints and differential take the shock of the violent additional power load on the drive train.

JUST IN CASE the car is used under "extenuating" conditions, Plymouth provides the Fury with 5½-inch, heavy-duty wheel rims (standard rims are 4½ inches); 11-inch brakes with specially-compounded (police-car type) lining are designed to resist fade.

ONE LOOK at that 6000-rpm tachometer on the instrument panel tells you that this is something other than a very deluxe Belvedere 2-door hardtop. But don't worry—you'll know what you're up against long before you see the interior, for the Fury carries as identifying features a gold-anodized aluminum side panel, similar-colored grille, special wheel covers, and "Fury" script.

SOME FARSIGHTED SEERS anticipated a breakaway from a long-standing trend, but it didn't happen here, for 3-speed transmission remains standard equipment, with overdrive and PowerFlite on the option list. Presstime information sources insist that there'll be no Fury in the lighter, less expensive 2-door Savoy or Plazas.

IT'S PRETTY OBVIOUS then that Plymouth intends this job to be solely a deluxe all-American production car with roadability, handling characteristics and performance beyond the call of duty; there'll be no sacrifices in full-size passenger capacity.



DODGE'S "500," its entry in Chrysler's closed-circuit horsepower race, bases its prowess on the Super Red Ram (315-cubic-inch) V8 currently putting out 230 horsepower. But the 500 engine, with 9.25 to 1 compression ratio, king-size 4-barrel carburetor, and dual-point distributor, puts out 250 bhp.

AN OUT-OF-THE-ORDINARY FEATURE is the availability of either of 2 camshafts. One is designed for good all-around performance; the other is strictly special equipment (actually may be hard to get thru normal dealer channels) designed for high-speed operation. The latter comes with 2 huge 4-barrel carburetors (1½-inch venturis) as a D-500, and can have a cast dual-runner intake manifold. Our guess on output? 280-285 hp. Either cam actuates valves that are 18 per cent larger than stock. Double rocker arm valve train utilizes heavy-duty valve springs with, of course, high-lift cams.

CHASSIS FEATURES INCLUDE stronger steering knuckles and steering arms, beefed-up axle shafts and rear springs (which serve to lower the rear end 1½ inches), and stiffer Oriflow shock absorbers. Wheel rims come in assorted sizes from 5½-inch to husky 8½-inch widths. Car makes wise use of DeSoto-Chrysler center-plane brakes.

YOU CAN GET A 500 in a Custom Royal 2-door hardtop or convertible, or in a Coronet 2-door club sedan for about \$175 more than a comparable, less-powerful model. Various axle ratios come with PowerFlite or stick shift.

DE SOTO'S ADVENTURER is not to be confused with the earlier Ghia-built Adventurer sports coupes (Jan. and Aug. '54 MT). The '56 version of the same name is a stock-looking 2-door



hardtop with 320 vs. 255 horsepower. **BEHIND THE BOOST** lie such contributors as a piston displacement of 341 cubic inches (standard Fireflite is 330.4), 9.25 to 1 compression ratio (as opposed to 8.5 to 1), high-lift camshaft, recalibrated distributor timing, heavier valve springs, and revised intake manifold. But topping off the whole underhood surprise package is a pair of 4-barrel carburetors.

A CHASSIS CHANGEOVER for the Adventurer sounds familiar—new front and rear springs, heavy-duty shock absorbers and front swaybar. PowerFlite, with a 3.54 rear-axle ratio, is the only drivetrain duo posted at presstime.

IF THE GOLDEN AGE of motoring hasn't arrived, it's not DeSoto's fault. Exterior paint job is limited to 2 options: gold-and-white, or gold-and-black. Grille is gold-anodized aluminum, interior fairly glitters in gold-threaded materials, gold-colored, metallic-type trim and accessories. But don't think the gold motif stops at the black instrument panel padding; the engine is gold-painted, too.



THE CHRYSLER 300 was last year's unquestioned leader in U.S. long-haul stock car racing (took both NASCAR Grand National Championship and AAA National Stock Car Championship for '55 season). Now the Chrysler 300 blossoms out for '56 with a B behind the numbers, and even greater promise for challenges to come.

ALTHO CHRYSLER DIVISION doesn't put heart, soul or cars into competition, it must be proud of what the champ did last year. In a move which seems like a

courteous gesture of appreciation, the 300-B has been provided with far more versatility: New this year is the availability of a 3-speed, stick-shift transmission (PowerFlite is still standard) with a wide range of rear-axle ratios.

RATIOS NUMBER 14 IN ALL, run from 3.08 to 1, which should give exceptional top speeds, to a fantastically low-geared 6.17 to 1, which should be hard to beat on extra-short tracks or hill-climbs, provided you have rear tires after coming out of the chute.

HORSEPOWER, OF COURSE, is 'way up—340 bhp, compared to last year's 300 horses. Torque (now increased 40 pounds-feet) is 385, has a curve extending peak torque from 3200 to 3600 rpms. (Last year's specifications showed peak torque dropping off at 3200 rpm.) Compression ratio, altered by cylinder reboring and piston redesign, is 9.0 to 1, a 0.5 point increase.

DISPLACEMENT INCREASE for '56 (now 354 cubic inches, was 331) brings Chrysler FirePower V8 close to physical boring limits of block design. Other 300-B engine alterations are minor; twin 4-barrel carburetors remain similar to '55: valve train action is basically unchanged, with stiffer valve springs, lighter-weight cam followers keeping up with camshaft alterations. (Cam is again designed for high-speed zip, has altered overlap pattern.)

CHASSIS CHANGES for '56 include stock New Yorker center-plane-type brakes; Oriflow shocks are used this year to give the 300-B more of a boulevard ride than the 300's stiffer, export-type shocks provided.

THE STICK-SHIFT GEARBOX is a tougher breed than 3-speed transmissions found in other Chrysler-built passenger cars. The clutch, an 11-inch, heavy-duty job, is also unique to the 300-B, won't be found in another passenger-car capacity.

EXTERIOR IS AGAIN a composite of New Yorker and Imperial styling, is again a much-admired display of tasteful restraint. The 300-B's interior is once more carried out in handsome natural leather. Grouped instruments in padded panel include a 150-mph speedometer—whose entire dial might be used in the "300-C."



"A team of special competition Corvettes will be entered in selected sport car races (including Le Mans) in 1956."

PROBABLE—Several leading racing stables are very interested in the forthcoming competition, may run with factory support.

"Radar-controlled braking that is sensitive to closure rate on obstructions and will automatically take over if you fail to step on the pedal yourself, is nearing the production stage."

TRUE—A leading independent automobile manufacturer is currently giving the system intensive engineering evaluation, may offer it in 1957.

"Use of the Packard engine in big Hudsons and Nashes will be discontinued with the advent of American Motors' own V8 late in March."

FALSE—New engine (said to have remarkable fuel economy and close to 200 horsepower) is slated initially for Statesmen and Wasps.

"Buick is considering a new transmission for 1957, different from Dynaflo but still a torque converter."

PROBABLE—Activity in this field ties in with strong current rumor that Buick will switch to a swing or deDion-type axle with transmission mounted adjacent to the differential housing.

"Wraparound windshields are due to disappear in some '57 models because safety research has shown that this type construction has poor resistance in turn-over crashes."

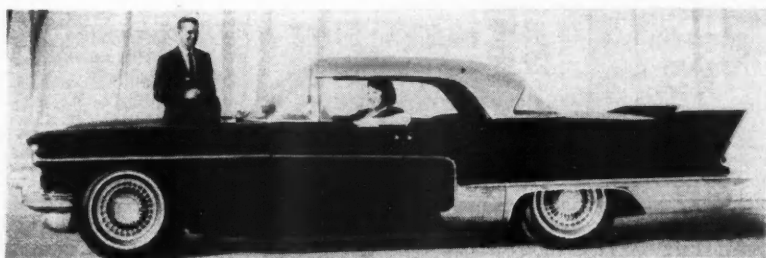
FALSE—Structure can and will be beefed up; 1957 windshields are likely to wrap around more than ever. Glass area will extend into top as in current show cars.

"Spare tires and even a place for them will disappear in a couple of years."

COULD BE—Spare tire and wheel is an expensive item that any factory would like to avoid having to supply. New 14-inch tires under development are virtually blowout proof. Look for spare to become 1st an extra-cost item, then vanish.

"Surprisingly, retractable hardtops may show up 1st on big-volume makes like Ford." (See page 38 for another view.)

POSSIBLE—Only way to reduce inordinately high unit cost of this item is to get into large-scale production.



"About \$8500" is tentative price on Cadillac's Eldorado Brougham, previewed nearly a year ago in MT

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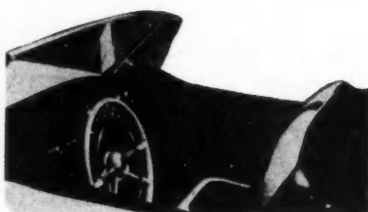


FIBERGLAS WILDFIRE

Dear Sir:

I thought you might be interested in a home-constructed Fiberglas sports car built here, in eastern U.S. Most of the articles I've read about homemade and custom cars seem to come from the West Coast.

The body is the Wildfire changed slightly from the original. . . . The '53 Ford Customline chrome trim was used on sides to cut the paint line. The 2-toned paint job is hand-rubbed lacquer. . . . Red and white Naugahyde was used for upholstery and interior trim. Electric door openers were used



so as to eliminate door handles. Under the hood is a '54 Ford V8 overhead-valve engine.

I never sat behind the wheel of a car that had such terrific acceleration—the car handles very well and I think the ride is exceptionally good for a 2200-pound car.

W. Staley Hahn

Frederick, Md.

THE MEMORY LINGERS ON

Dear Editor:

The car that wasn't produced in '56, the Willys ("Spotlight," Jan. '56 MT) certainly embodies clean, dramatic beauty unlike the lumpy chrome stylists' nightmares foisted upon us by American motordom. Does an automobile have to look like an airplane or anything else for that matter? The Willys design signifies what we have nearly lost—that sleek, practical, uncluttered look. The stylist has given us trashy chrome and the engineer an unroadable dragster for not jackrabbit but jackass starts from traffic lights on our 25-to-45-mph speed-limit streets. . . .

A. F. Gebhart

Pasadena, Calif.

Gentlemen:

As the proud owner of a 1955 Willys, I was naturally disturbed by your article in the January '56 issue pertaining to the end of the Willys automobile.

Here, I believe, is another instance of a fine, old, small company being absorbed for

the benefit of a larger company and then cast aside to die. The 2 pictures included in your article merely intensify my feeling that Willys could have been a leading producer of small cars if left alone and not embroiled in "big business." The proposed '56 Willys is decidedly more modern than any '56 car now on the road.

R. Gregory Sutcliffe, Jr. Pennsburg, Pa.
We too will miss the Willys.—Editor

WHAT'S IN A FRAME?

Dear Sir:

One subject that is seldom if ever mentioned in print is close to a great many readers of MT. It is the matter of poor workmanship and sloppy assembly of some modern cars.

Currently much is being written about safety features in the 1956 cars. While safety is important to all of us, equally important is the matter of building cars for more economical maintenance. Shoddy workmanship, sloppy assembly methods and lack of adequate assembly inspection are on the increase. . . .

Today car makers are so wild to outproduce one another that car quality is getting less and less. Poor paint jobs, badly misaligned exterior sheet metal, rusting chrome, etc., are sickening to see. Why is it that such a prominent publication as MT has never mentioned this growing cancer of the auto industry? R. Blagden East Hampton, Conn.

We mention it almost every issue in our Road Tests and hope for positive results.—Editor

DEATH, TAXES AND METERS

Dear Sirs:

Congratulations on your article about "Horsepower" [Nov., '55 MT]. As a driver I am sick and tired of hearing the propaganda put out by police departments and other misinformed people about the horror of horsepower and its relation to accidents.

The American motorist is being taken for the biggest sucker there is. Why not devote an article in each issue [to] such things as our archaic speed laws, our antiquated roads, parking meters, etc.

Why should motorists have to pay to park on the public streets thru the use of meters? Should not cities provide free parking facilities for the tax-paying public? Should not the police department be for the education and guidance of the motorist and not always punitive? Are our traffic courts now only places to fill the pockets of J.P.s and city treasuries? Is there any way to stop kangaroo courts? Robert W. Fues Chicago

MOTOR

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"AUTOMATION" (production-line magic) did it. Thousands—yes, hundreds of thousands—of laboratory and field tested BRONZE—permanent filters have been sold at \$6.95. Regular users include Federal Government departments, large trucking companies, fleet operators, and leading taxicab companies.

A NEW LOW PRICE Now you may own the finest filter obtainable for only \$4.95 (authentic \$6.95 value). We have full patent rights to manufacture it with our new high speed, top

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ENGINES LAST UP TO 150,000 MILES A genuine Perma-Bronze filter is your best insurance against needing an overhaul until you're tired of driving your car . . . and you'll trade it in at a preferred price, too.

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PLUS—FINEST ACID NEUTRALIZER Every Genuine Perma-Bronze filter has a replaceable magnesium "moisture barrier" acid neutralizer. It neutralizes the corrosive sulphuric acids produced by combustion. Little wonder that this dual-protection doubles and even triples engine life.



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Judge carefully! Don't fall for trick shapes from martini glass to "Mae West" silhouettes that reduce total filtering area . . . and don't settle for shorter models with ends bolted on. Genuine Perma-Bronze filters give you up to 43% more filtering area—PLUS fused top and bottom plates which definitely assure against seepage of grit, grime and acids—PLUS 14% thicker walls for superior filtering efficiency!

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Needed only for 1956 Chevy V-8, Buick V-8, Olds V-8, Pontiac V-8, 1954-56 Ford V-8 and Mercury, 1952-56 Ford 6 and Lincoln, 1946-56 Chrysler.

Complete Filter . . . \$10.95
"By-Pass" element with case and mounting bracket (for cars with no stock filter).



DOESN'T STEAL THE DETERGENTS YOU PAY FOR Modern motor oils contain excellent "detergents" developed by top chemical and refining engineers. They help prevent the formation of gums, lacquers and sludge in your engine. Why lose these helpful ingredients? Being liquid, they go through with the clean oil when you use a Perma-Bronze filter. Metal cannot soak up anything (fabric and paper filters can).

AT FILTER CHANGING TIME? Just wash your Perma-Bronze filter in kerosene or other solvents and it's better than a new "old-style" cartridge . . . without the expense. Then you're all set for miles and miles more of safe engine operation, with all the pep that a power plant gives you in return for good care.

USE IT FOR 30 DAYS AT OUR RISK! When you order your genuine PERMA-BRONZE Filter you are not "buying" now . . . we want you to use it, compare it, test it any way you please for 30 days—then, and only then, do we consider the sale final. We further stand behind our superior product for a full 10 years as per our guarantee.

30 DAY TRIAL GUARANTEE

Use the Genuine Perma-Bronze Filter for 30 days at our risk. Test it and compare it with any other make. If not 100% satisfied, simply return it for a full refund. We guarantee it to be the finest quality filter of its kind at any price, and further guarantee it for 10 full years.

C. M. Rogers

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- ☐ Enclosed is \$..... full price, ship postpaid, Calif. Residents add 3% sales tax.
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GENTLEMEN: Please send me PERMA-BRONZE filter checked at left. I understand that if I am not completely satisfied I may return it for full refund within 30 days.

MAKE OF CAR..... YEAR.....

MODEL..... NO. OF CYL.....

NAME.....

ADDRESS.....

CITY..... ZONE... STATE.....

(ADVERTISEMENT)

McCulloch Supercharger

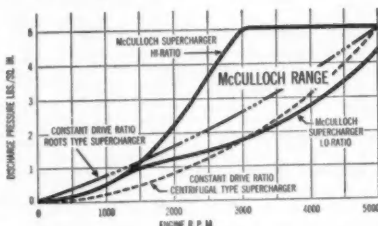


>> Tips

by
John Thompson

Last month I said I would explain why a variable speed centrifugal supercharger is the best for all-round automotive use. This isn't easy to do in so short a column but I'm going to try.

The little chart sums up my story. It plots supercharger discharge pressure against engine RPM for three units set to deliver 5 p.s.i. at 5,000 RPM. Since, within limits, the greater the discharge pressure at any given RPM, the chart indicates relative performance of the three units plotted.



Notice first the curve of the "constant drive-ratio Roots-type supercharger." It's almost flat, indicating a steady build-up in boost to maximum at peak RPM. Now check the curve for the "constant drive-ratio centrifugal-type supercharger." Not so good at low and intermediate RPM but OK at peak RPM. Right here is where we get a lot of "static" about the McCulloch not being any good at low RPM because it's basically a centrifugal type blower. And this criticism would be valid were it not for our VARIABLE SPEED DRIVE.

As long as you "keep your foot in it," the McCulloch supercharger will stay in high-speed (hi-ratio) drive and follow the top discharge curve. (Notice how discharge pressure is regulated to hold maximum boost from 3000 RPM on.) The minute you "let up on the throttle," no matter what the RPM, the unit shifts back down to the low-speed (lo-ratio) discharge curve.

Thus the distance between our lo-ratio and hi-ratio curves at any given RPM is the RANGE OF PERFORMANCE of the McCulloch supercharger at that RPM. No other supercharger has this flexibility to meet the varying requirements of an automobile engine under all driving conditions!

Now you know why I say the McCulloch supercharger is the best for all-around automotive use. So, if you want to find out how you can add 40 percent or more rear-wheel horsepower to your car, at less cost per horsepower than any other method, and without loss of smoothness or reliability, drop me a line. Be sure to tell me the make and year, the type carburetor, and if you have power kit or other power accessories. I'll send you complete details, prices and an illustrated folder.

Write John Thompson, Paxton Products Div., McCulloch Motors Corp., 827 W. Olive St., Inglewood, Calif.

Are the Citroen DS-19 and the Ferguson Already in Peril?

by Paul West and Gordon Wilkins
London Correspondents

IT SEEMS that we are traversing a cycle of revolutionary ideas in automotive technique. Here is an engine of entirely new principle, and of such simplicity that it has only 9 moving parts! "Omega" is its name, conceived by 67-year-old millionaire Granville Bradshaw, who has been approached by interested automobile manufacturers from the U.S., France and Germany.

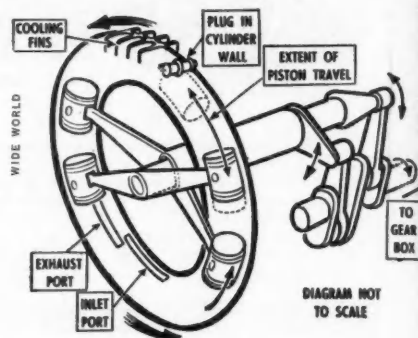
The Omega is not an engine just for motorcars. It may be equally adequate for motorcycles, motorboats, and even big ships and locomotives. What is more, it will run on gas, diesel oil, or kerosene, and it is air-cooled and extremely lightweight.

Here is the revolutionary pattern of the Omega: It has only one circular cylinder, in looks very much like the inflated inner tube of a tire, and is cast in 2 pieces. This cylinder has slots in its walls for intake and exhaust ports, and rotates continuously in the same direction at half the crankshaft speed. In the interior of the cylinder are 4 double-ended pistons, which go forward and backward, very much as does a wristwatch escapement. Each opposite pair of pistons is connected by an arm to 1 of 2 discs, so that the appearance of the arms is that of a large X, with each arm connected to its own disc.

There is only one sparkplug fitted to the cylinder, which obviously travels with it. Each time the plug reaches a gap between a pair of pistons (after having completed a 90-degree turn) it explodes the fuel which is compressed there. The result is an explosion that throws those pistons apart in the manner of a pair of scissors being opened.

The cylinder, still rotating, allows the sparkplug to reach the next short gap between the other side of one of the "fired" pistons and the next double-ended piston. It again fires the injected fuel and once more 2 pistons are thrown apart.

The discs, not shown in the illustration, are connected to and oscillate a coaxial shaft (i.e., one working inside the other). These shafts are joined thru short links that oper-



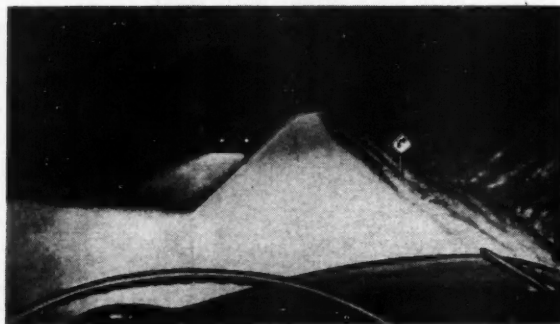
ate as do conventional connecting rods and transform the oscillating motion into usable power thru a rotating crankshaft.

The advantages of the Omega are given by Mr. Bradshaw himself: 1) weight reduced to half that of a similar-output conventional engine, 2) small size [only 9-inch diameter], 3) fuel consumption cut by 35 per cent when compared to conventional engine of equal capacity, and 4) 200,000 miles before an overhaul is required.

Mr. Bradshaw expects to build his engine at a cost of 30 per cent less than conventional types, and believes a 152-cubic-inch racing model would produce 400 horsepower at 10,000 rpm. A 61-cubic-inch engine has been built, but no data on performance has been released.

Too interesting in concept, serious design problems will require extensive testing of the engine before production is possible. Considerable heat in the combustion area of the toroidal cylinder is likely to cause piston seizure. Pistons themselves present a difficult machining problem in that the inside must be concave and the outside convex as must the piston rings. Also, there is a flat area on the inside of the piston where the arms are attached. Thermal distortion is particularly tricky in such a complicated form, and there is no provision for cooling the pistons. Since the rings cannot revolve, unequal wear could result in early blow-by and breakage.

NEW LIGHT ON AN OLD PROBLEM



The Bone-Midland light, while still in the laboratory stage, promises to reduce glare for oncoming traffic and increase visibility of the road and shoulder for the driver of the car equipped. A metal vane within the light casts a shadow over the road's left lane

DE SOTO to pace Speed Classic



255 H.P. DE SOTO FIREFLITE CHOSEN TO PACE 40th ANNUAL INDIANAPOLIS "500" MILE RACE CLASSIC

Indianapolis: De Soto Division of the Chrysler Corporation has been invited to provide the pace car for the 1956 Memorial Day 500 mile race at Indianapolis. This announcement was made recently by Mr. Tony Hulman, President and General Manager of the Indianapolis Motor Speedway.

Commenting on the selection of De Soto as official pace car, Mr. Hulman said, "The 1956 De Soto was selected by the track committee for its outstanding performance and superb handling qualities."

In accepting the pace car award, Mr. L. I. Woolson, President of the De Soto Division

replied: "We are of course proud that our 1956 De Soto has been selected as official pace car. The Indianapolis "500" is certainly one of the most exciting sporting events in America... each car entered represents the finest in engineering skill and ingenuity. It is a great honor to have De Soto chosen to pace this distinguished field."

Mr. Woolson added that the official Indianapolis pace car will be a De Soto Fireflite Convertible chosen at random from the production line in Detroit. It will have the Fireflite 255-horsepower engine, mechanical push-button drive selector, De Soto "Full-Time" power steering and power brakes.

Why don't you . . . Drive a De Soto before you decide!



Mainstays of the Hertz rental fleet. Front row (left to right)—Buick, Ford, Chevrolet. Back row—Cadillac, Oldsmobile, Plymouth

Why does Hertz — world's largest rental fleet — use Champion Spark Plugs?

Operating 15,500 cars and 15,000 trucks, Hertz wants the most power and the most miles per gallon . . . so Hertz uses full-firing Champions!

You can bet that Hertz, world's largest rental fleet, knows all about spark plug performance and value!

All around the globe, Hertz has put spark plugs through the world's toughest road tests. The fact that Hertz uses 5-rib Champions speaks for itself!

Whatever car you drive—Chevrolet, Ford, Plymouth or any of the higher-priced makes—take a tip from Hertz' experience and use 5-rib Champion Spark Plugs. You'll feel the difference in faster starts, quicker response, more miles per gallon, when you get the best—5-rib Champions!

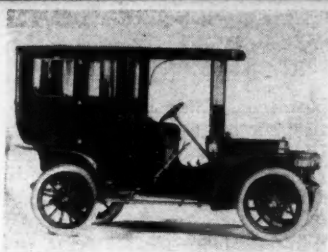
CHAMPION

LOOK FOR THE 5 RIBS



The U.S. Senate Judiciary Committee has investigated the development and growth of General Motors to determine if GM is a trust or monopoly. MOTOR TREND here presents some highlights of the early years, the current activities, and the near future of this vast, complex organization. Here is the dope on engineering research, body styling, and sales procedures in GM's then-dark, now-bright history

HOW



The 1908 Cadillac

A 1919 Olds: GM's 1,000,000th car



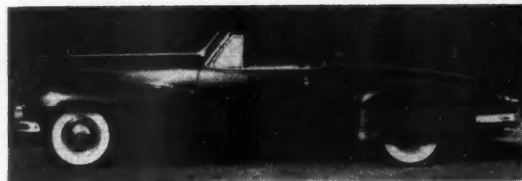
GM

GOT



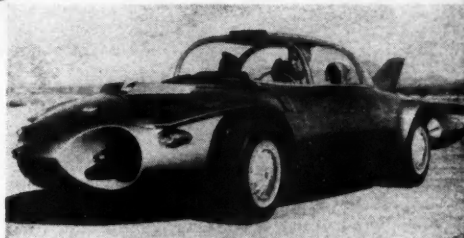
The 25,000,000th: a '40 Chevy

The 1st "dream car"



THAT

WAY



GM's latest, the gas-turbine-powered Firebird II

by Don MacDonald

PSYCHICALLY, perhaps, when *Time* magazine chose Harlow H. Curtice as 1955's man-of-the-year, the editors added a footnote to their cover which read "General Motors' Curtice."

Men-of-the-years of the past have been political, military, or scientific. None except Walter P. Chrysler in 1928 have been business men. Going beyond *Time*, it seems as tho we have a new breed of man—progressing thru the ape, Neanderthal and Cro-Magnon men to Corporate men of the 20th century.

Mr. Curtice has devoted 42 years to General Motors, starting in 1914 as a bookkeeper for the AC Spark Plug Co. only 6 years after the formation of the parent organization. Now he is the president of an industrial phenomenon that is bigger by far than any other corporation in this country and also bigger (treasure-wise) than the majority of sovereign coun-

tries. This is despite the fact that twice (1910 and 1919-21) GM has been in deeper financial trouble than the darkest nightmares of today's independent automobile producers.

To trace GM's growth in detail since its organization in 1908 would require a lace-like chart covering 2 of our pages and involving nearly every famous name in the industry. Buick, for example, stemmed from a bankrupt plumbing concern called Buick and Sherwood. It became the springboard from which William C. Durant built General Motors, and as a division, was run for many years by Walter P. Chrysler.

When R. E. Olds sold out to Durant, he left to found Reo. Henry Leland took over Henry Ford's 1st and only failure, the Detroit Automobile Co., to found Cadillac and left soon after the advent of Durant to create Lincoln. Somewhere

around 1910, Henry Ford was within a million dollar hair of selling out to GM.

C. W. Nash and Durant himself were, both ex-presidents of GM who left to make automobiles under their own names, one successfully and the other not. Aside from surviving divisions, cars once made by GM included Cartecar, Elmore, Randolph, Welch, Scripps-Booth and Sheridan. Buick made the Marquette, Oldsmobile the Viking, Cadillac the LaSalle, and Pontiac swallowed up its parent Oakland.

The expanding colossus rapidly absorbed even its suppliers, bringing into the fold such companies as Packard Electric (originators of the Packard car); Dayton Engineering Laboratories, which became Delco and blessed GM with the practical genius of Charles "Boss" Kettering; Hyatt Roller Bearing, whose 1st draftsman, Alfred P. Sloan, later became GM's president and still is chairman of

the board; and Fisher Body, which once was happy to sell to all comers.

We mention only a few but should not neglect AC Spark Plug, whose initials stand for Albert Champion. This French racing driver was financed by Durant in his 2nd attempt at the sparkplug business which soon became part of Buick and later GM. Controversy still surrounds the 1st attempt and whether it grew into what is now the Champion Spark Plug Co., but at any rate, this giant competitor of AC is completely independent of both GM and its story.

You can see by now that Durant's concept was an integrated organization that not only manufactured a complete range of automobiles, but built thru its subsidiaries as many as possible of the

parts that went into the automobile. If Durant had had a chance before the blow-up, he probably would have owned his own steel mill and ore mines.

Founder Durant controlled General Motors for 2 separate periods. During the 1st (1908 through 1912) he operated behind the scenes, wheeling and dealing in whole corporations, but never claiming more than a vice-presidency and directorship in GM. Surprisingly, in that era when many industrialists were classed as robber barons, no-one ever accused him of an unethical act. To this day, General Motors reflects his 2 great legacies—optimism and vision. Nevertheless, he was a poor administrator and airily neglected production problems.

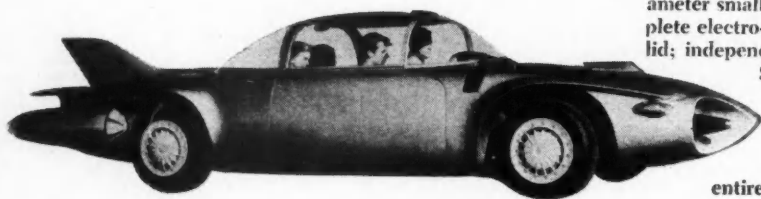
This latter failing caused his downfall.

Like anyone else around 1910, GM could sell every car it could make and not enough money came in when production lagged, at least not enough to satisfy Will Durant's requirements. The banks moved in and installed production expert Charles W. Nash as president, removing both Durant and his figureheads.

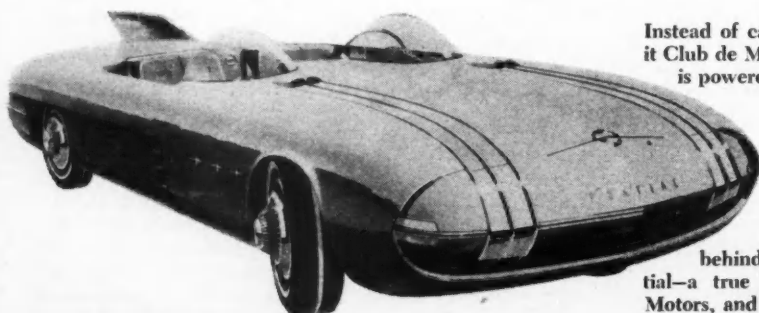
Mr. Nash may have gotten the production lines moving again, but he neglected to read his morning copy of the *Wall Street Journal*. Between November, 1912, and June, 1916, Durant in "retirement" had formed Chevrolet from the embryo Little Motor Co. Using Chevrolet stock (which at the start was worth little more than air) plus the intangible value of Durant's reputation with the investing public, he quietly bought into GM until

Feature car of GM's Motorama will be Firebird II, a more plausible version of guided-missile original on 120-inch wheelbase. Relatively orthodox style-wise (compared to other Motorama cars), car is replete with unusual details. GM's president Curtice says, "Firebird II represents a report to the public on our progress in gas turbine development." New

Whirlfire engine generates more than 200 hp, weighs about 850 pounds. Because of regenerator's recovery of up to 80 per cent of exhaust heat, fuel economy approaches that of present piston engines. Designed for passenger car use, new GT-304 engine connects thru 7 to 1 reduction gear to drive-shaft, which transmits power to car's automatic transmission. Firebird II is also test bed for such features as door locks controlled by magnetic key; 17-inch tires that have overall diameter smaller than next year's 14-inch super balloons; complete electro-hydraulic control of everything, including trunk lid; independent suspension of all wheels by Delco Air Oil Suspension units; and radar system that will automatically predict obstructions ahead and apply brakes with effort based on rate of closure. Show car's body is probably most expensive ever built, being composed entirely of rare titanium. Another car has plastic body.



Cadillac's town car adaptation of already-committed-for-production brougham will stay a dream despite resemblance. Body is of Fiberglas and top (55.8 inches off ground) is black leather. Interior has black Fiberglas paneling and white leather in front. Rear compartment includes air conditioning, radio-telephone, ladies' vanity, cigar humidor, and bar. Hardware is satin gold. Doors are controlled by micro-switches with safety lock actuated by transmission control. All doors can be locked and all windows raised by using key in rear door. Electrical system can be over-ridden mechanically with car key for convenience.



Instead of calling this Bonneville II, Pontiac prefers to call it Club de Mer. Strictly for use in straightaway time trials, it is powered by a 300-horsepower V8. Air for engine cooling enters front, exhausts thru sides of front fenders. On a 104-inch wheelbase (shorter even than '56 Ramblers), car has clearance of only 5 inches. Headlights and parking lights revolve as unit and disappear when not in use. Interesting mechanical detail is synchromesh transmission located behind passenger compartment, adjacent to differential—a true prediction of things to come from General Motors, and in the not-too-distant motoring future, at that.

finally he marched in upon a surprised board of directors and said: "Gentlemen, I am president." Incidentally, he brought with him Chevrolet.

His 2nd tour was marked by more optimistic expansion, which could be termed reckless except for the vision behind it. Still it outstripped capital, and during the depression of 1920-21, many remember the boarded-up windows of the unfinished GM building on Detroit's Grand Boulevard and GM stock selling for \$7 a share, shares for which Durant had paid as much as \$500.

Durant went out in late 1920 (to once again found his own company on his surprisingly durable reputation) and solid old Pierre duPont came in. From here stems the legend that duPont controls

General Motors. Actually, duPont money was used to stem the cave-in, and their ownership today amounts to a substantial but non-controlling 23 per cent.

As soon as things were solvent, Mr. duPont returned to his own affairs and turned things over to Alfred P. Sloan. Where Durant provided the vision that built but nearly ruined GM, duPont made the corporation solid financially. Sloan, a competent engineer, found outlet for another forte, managerial genius. He reasoned that one man could not effectively maintain an all-seeing God-like control over what was already an enterprise worth a billion dollars.

From his thinking stemmed the famous GM system of decentralized control which, like the military, separates command, staff,

and operating functions. It was and still is so good that Henry Ford II's first act upon taking over from Grandfather in 1945 was to start reorganization based precisely on the GM pattern.

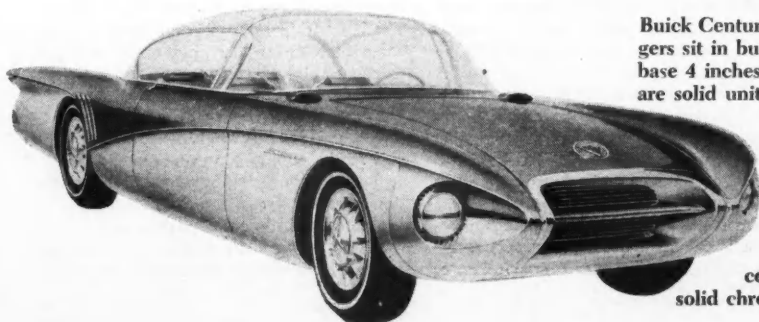
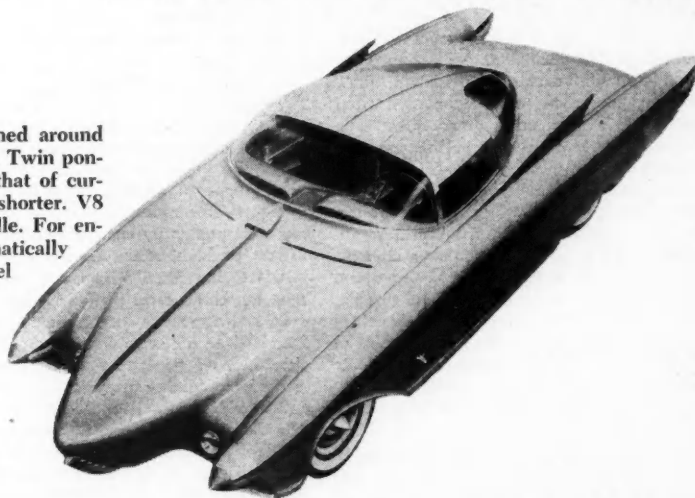
The Sloan era (which is still very much in evidence) brought to the fore Kettering and automotive engineering and research worthy of the name; proving grounds that would test a car *before* it got into the hands of the owner; Harley Earl and styling; but mainly expanded inquiry into things other than automotive, a facet already started by Durant.

During this period, GM built Frigidaire into a household word so common they have all but lost trademark rights; replaced steam locomotives on American tracks with diesels; (Continued on page 50)



Chevy's Impala can be considered a close approximation of that company's 1958 model, with possible exception of tinted wrap-around-the-top windshield. Dimensions are basically current Chevy except that body is 8 inches lower. Body is Fiberglas, trimmed with stainless steel. Interesting detail is speed warning system which spans entire instrument panel and has 10 circular windows which light up progressively in more intensive shades of red for higher road speeds. Another interior feature is padded bar emanating from steering column, angling upward to flatten into horizontal plane entire width of car. Instrument controls fit flush with bar surface. Power is by 225-hp V8, thru Powerglide.

Oldsmobile's Golden Rocket seems to be designed around Cadillac's idea of what bumpers should look like. Twin pontoons add much to keeping overall length near that of current Oldsmobiles; wheelbase (105) is 17 inches shorter. V8 engine of 275 hp is housed in aircraft-type nacelle. For entrance into car, door is opened, roof panel automatically lifts, seat rises and turns outward. Steering wheel folds under column on simultaneous pressing of 2 buttons to permit driver to slide into place, or automatically in a crash. Location of buttons prevents unintentional folding of wheel.



Buick Centurion could soon be in your garage. Four passengers sit in bucket seats inside a Fiberglas body, on a wheelbase 4 inches shorter than current Specials. Grille and hood are solid unit hinging at front behind grille and opening at rear. Rear panel of car houses TV camera for giving rear view of road on instrument panel screen. Steering column is on centerline of car, connected with wheel at driver's position by cantilever arm, allowing leg freedom for driver. Stop and backup lights are in bomb in rear center of car; when not in use, they appear to be solid chrome because of chromed effect of outer lenses.

by Al Kidd Sports Editor



1956 Indianapolis 500 Rules Announced . . .

ONE DAY LAST MONTH the only man who has the real say-so—Indianapolis Speedway Owner Tony Hulman—announced the long-awaited regulations for the '56 500-mile race. It was a simple announcement—no changes over the '55 rules. The reason for standing pat, said Mr. Hulman, was that "... we feel it would be unfair to alter the regulations on such short notice. Several proposals were given serious consideration, but too much work already has been done by some car owners in preparation for this year's race to make any major changes advisable now." Perhaps some other owners thought it just as unfair to wait as late as January to announce the '56 regulations.

Shortly before Mr. Hulman's announcement, opinions around Indianapolis indicated that at least 2 changes were virtually assured for '56—the banning of nitromethane as a fuel additive, and a provision to allow stock (non-overhead cam) engines of from 305 to 335 cubic inches displacement. The pre-announcement feeling went this way: Nitromethane, dangerous or not, has bred disagreement and resentment around the Speedway in the past. Many successful car owners say that they have never used nitro at all, even to qualify. More important still, most owners wanted to see the race slowed down.

The stock-type engine feud is one that has been smoldering for several years. It gained tremendous impetus last year when the Dean Van Lines Dodge-powered car not only showed great potential (tho it failed to qualify) but seemingly captured the fancy of the crowd. Where there's smoke there's fire, and lots of people got fired up about the possibilities of stock engines. With crowd appeal and the enjoyment of experimentation in mind, some car owners were on the brink of having a go at it with something other than a Meyer-Drake. None of the stock-engine advocates wanted to oust the Meyer-Drakes, they simply wanted to compete with them. But they needed one thing badly—some extra cubic inches. In December it seemed almost sure that they'd get their inches; apparently it was only a question of how many. At least 305 inches was considered a certainty, with 335 a good possibility. Either of these engine sizes could probably have qualified for the race—it boiled down to this. In order to

stay with the Meyer-Drakes a driver would have to wind a 305 engine up so tight that it wouldn't have much chance of staying together for 500 miles. If many such cars qualified and then dropped out, it would hurt the race. A 335-cubic-inch engine might go the distance if well prepared, and would be pretty near an equal of the Meyer-Drakes—in fact probably too near an equal to make some Offy owners happy. And it may be that too few vs. too many cubic inches cancelled out the stock engine possibility for '56, thereby cancelling a lot of hopes and perhaps a few well-laid plans.

Mr. Hulman, unquestionably aware of all this, said that the 1957 rules would be announced early in June, probably would provide for stock-type engines, and might comply with F.I.A. standards. For those who wanted to know what happened, it can only be said that after waiting this long, one more year can't hurt too much. Undoubtedly the '56 500 will draw the same capacity crowds that 500s have drawn in the past, but to many among those crowds, and to the enthusiasts (and car owners) who stay home on Memorial Day, it will still be another Meyer-Drake sweepstakes, another year of boredom at the Brickyard.

USAC Sanctions Its 1st Race . . .

On December 27th the AAA held what was presumably its last automobile race. It was an indoor midget program at the Fort Wayne, Ind., Memorial Coliseum. Just 12 days later at the same Coliseum, with the same promoter, the same cars, the same drivers, and the same officials, the freshly formed United States Auto Club sanctioned its 1st race. For those in doubt, this serves as a typical example of how the USAC plans to take over the AAA racing function using pretty much the same personnel and equipment.

The USAC hopes to revitalize some aspects of the sport, and the presently sagging midget program is a good example. The Club already has over 45 Midwest midget dates set, and has arranged to join with the ARDC (strictly a midget organization) in the East to provide top-flight midget programs in that area, with drivers of both groups competing together.

USAC has already scheduled more late-model stock-car races than AAA had all last year, and a separate short-track division will be added. In the championship circuit (Indy-type cars) all '55 dates will be repeated, and 4 or 5 new ones may be added. The once-infamous Lakewood Speedway in Atlanta has asked for a sanction, and they'll probably get it if they spend some \$10,000 on safety improvements. Other sanctions may go to Darlington Raceway and Memphis-Ark Speedway, and there will likely be an added Western date. Only the vaguest possibility exists for a Toronto group which claims to be building a 2½-mile speedway and wants a 500-mile USAC race there, but it could happen.

No U.S. organization will get the F.I.A. representation for the country this year, but it's almost sure to go to USAC in '57, since it, and everyone else in the industry, will stress safety. Racing Director Duane Carter has a view toward safety that's sound as it is old—prevent accidents before they happen. He hopes to do it thru regular magnafluxing of

cars, rigid physical examinations for drivers, close inspection of tracks and screening of ill-handling cars. With '56 promising to be one of the biggest auto racing years ever, USAC has its sights set high.

Italians Challenge U.S. at Monza . . .

Every racing enthusiast who has ever done any dreaming has pictured a race pitting the best cars and drivers of the U.S. and Europe. Sometimes dreams come true. The management of the famed Monza race course in Italy has asked the USAC to send its best 8 or 10 cars and drivers abroad in '56 to compete with the best from Europe. The Italians have offered to pay expenses for cars, drivers, and crews, as well as \$32,000 in prize money. Here's the race they propose: 500 miles on the new 2.64-mile Monza high-speed oval. Engine displacement would be unlimited and the race would be run in a counter-clockwise direction (as in the U.S.). The U.S. cars and drivers would likely be chosen from the top '56 Indianapolis finishers, along with the leaders in the '55 AAA Championship standings. The Italians have offered several dates (October 7 seems most likely), and altho this race is still in the planning stage it stands an excellent chance of becoming a reality.

Cars and Drivers For Indy . . .

Rumors of car-driver combinations for the '56 Indianapolis 500 are already circulating. It's pretty certain that Champion Bob Sweikert will switch from John Zink to the D-A Lubricants stable for '56, and Jim Bryan may be racing under new colors too. A carryover rumor from last year is that the Novi will go to rear-wheel drive. Reports from Italy say that the Bardahl Ferrari has been completed and successfully tested, and that one-time World Champion Farina will be the driver at Indy. Some sources say too, that at least one D Jaguar will be entered in the 500.

Plymouth Fury Rages at Daytona . . .

While preparing this issue for press, we got word from Plymouth that Phil Walters was going to try for some new NASCAR straightaway records with the 240-hp 2-door hardtop Fury (see page 10). On January 10th we received a wire from Daytona Beach that the 303-cubic-inch V8 (with standard transmission, 3.54 rear axle) had pulled the Fury from a standing start on the hard-packed sand to an average 82.54 mph in a mile (2-way run; former record holder was Cadillac with 80.428). From a flying start, bucking a 19-mph crosswind, it averaged 124.01 mph. You'll recall that until this date, MT's Don MacDonald held the Class 3 record of 112.295 mph in his '55 DeSoto (for the full story, see May '55 MT).

Way-Out Corvette . . .

The '56 Chevy Corvette clocked an average 150.1 mph on a 2-way run with NASCAR sanctioned driver Zora Arkus-Duntov at the wheel. A half-windshield and tonneau cover was used, rather than the full top and windshield, and the half-windshield will be available to the public. We expect to see the car at many road races, Sebring, and possibly this year's Le Mans.

Nassau Speed Week Results . . .

With no less than 15 Ferraris and 4 D Jaguars on hand along with some of the world's

leading drivers, Nassau Speed Week promised to be *really* speedy. It was. 1st major event was the 105-mile Governor's Trophy Race—30 laps on the 3.5-mile Windsor Airport course. For half of the race it looked like Sherwood Johnston driving Briggs Cunningham's D Jag would be the winner, but he was being pressed by a hard-driving Spaniard—the Marquis dePortago—on a Monza Ferrari. In fact, the Marquis pressed so hard that he ran smack into Johnston from the rear. Both cars spun and both recovered, but the D Jag wasn't right after the brush, and the flying Marquis went on to win at 92.397 mph. Californian Phil Hill was a second behind and Johnston wound up 3rd. But just 2 days later in the premier event, the 210-mile Nassau Trophy Race, it was a different story. Almost everything was the same except that Hill had the wheel of a brand new 3.5-liter Ferrari rather than his customary 3-liter Monza. That was all he needed. Hill and the new Ferrari

ciety of Auto Sports, Fellowship, and Education, Inc. (but the SAFE name will yield to NASCAR). As a result the overall organization plans to schedule some 2000 races in '56 with prize money totaling more than \$2 million. Meanwhile NASCAR made other announcements pertinent to the '56 season. One was the establishment of a national late-model convertible circuit to be run under Grand National rules (one-half-mile tracks or longer) but as a completely separate group from the Grand National (sedans) and late-model short-track divisions. First appearance for this division will be a 160-mile race at Daytona Beach Speedweek, which will be sandwiched between a 125-mile race for sportsmen and modified cars and the 160-mile Grand National finale. And NASCAR, seemingly at wits' end trying to decide what is "stock" and what isn't, and with winners of 2 recent events disqualified because of non-stock engines, started an attack on the problem from

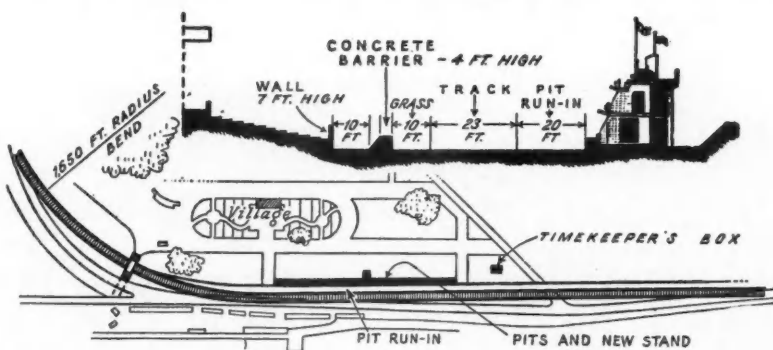
signed on with major factories. Moss will drive for Maserati, as was pretty much expected, despite pressure on him to drive a British car (BRM or Connaught). Maserati could have real power if Behra, Mieres and Musso string along. Fangio, also asked to drive BRM and other cars, has cast his lot with Ferrari and so has Britisher Peter Collins who was supposedly going to run interference for Moss regardless of where the latter signed. No news of Italian star Castellotti, but Ferrari is his probable choice. So even with the Silver Stars packed away for the year, '56 may turn out to be an interesting season—it will probably be more the drivers than the cars that make it so.

Great American Mountain Rallye . . .

Porsche proved itself just as at home in the mountains as it has been on the racing circuits when a Speedster driven by Don Kriplen and Charles Rickert of Indianapolis won overall 1st place in the tough, 1100-mile Great American Mountain Rallye. Second and 3rd overall places went to a Triumph TR-2 and an Austin-Healey. In other classes, Austin-Healey won the factory team prize, Hillman Huskies won the production touring class, and a '55 Buick won among the American production cars. In the hotly contested club entry class the Volkswagen Auto Club was 1st, followed by the Woodstock Motor Club and the Eastern Pennsylvania Region of the SCCA.

Bugatti Returns . . .

While one famous name—Mercedes Benz—has retired from auto racing, another may return. A prototype (Type 251) Bugatti Grand Prix car with a rear-mounted 8-cylinder engine has already been completed, and another is in preparation. And, altho most of them have been squelched, some rumors persist that Alfa Romeo will come up with something hot in the way of a Grand Prix car for '56.



About \$700,000 will be spent by Le Mans to effect construction of the new pit area. A 7-foot wall, a 10-foot road, a 4-foot high by 3-foot-wide barrier, and a grass strip will separate the stands from the track

were not only too much for dePortago and Johnston, but also for '54 winner and now internationally respected Masten Gregory who showed up in time for the final race with a Maserati. Hill took the lead instantly as the potent pack shot away from the Le Mans start, and never gave it up. His winning average was a breathtaking 98.207 mph. Some 25 seconds back was dePortago followed by Gregory and Ernie Erickson on a D Jag. British Champion Stirling Moss, clearly out-classed machinery-wise, wound up 11th overall after his Austin-Healey 100-S was forced out of the race. Ed Crawford of Northville, Ill., put on a remarkable show with a Porsche Spyder to finish 8th overall. Other events at Nassau were just as thrilling and Speed Week may well become the event of the year for international sportsmen. Next similar event will be Sebring's 12-hour Grand Prix of Endurance, which will offer cash prizes for the 1st time this year. It could lure some of the U.S.'s top professionals in addition to the amateurs; pro champ Bob Sweikert is entered in a D Jaguar.

NASCAR Merges With SAFE . . .

NASCAR, already a sprawling racing association, sprawled a little more thru a merger with SAFE, a midwestern stock car racing group with the unwieldy official name of So-

ciety of Auto Sports, Fellowship, and Education, Inc. (but the SAFE name will yield to NASCAR). As a result the overall organization plans to schedule some 2000 races in '56 with prize money totaling more than \$2 million. Meanwhile NASCAR made other announcements pertinent to the '56 season. One was the establishment of a national late-model convertible circuit to be run under Grand National rules (one-half-mile tracks or longer) but as a completely separate group from the Grand National (sedans) and late-model short-track divisions. First appearance for this division will be a 160-mile race at Daytona Beach Speedweek, which will be sandwiched between a 125-mile race for sportsmen and modified cars and the 160-mile Grand National finale. And NASCAR, seemingly at wits' end trying to decide what is "stock" and what isn't, and with winners of 2 recent events disqualified because of non-stock engines, started an attack on the problem from

Upcoming Grand Prix Season . . .

Most of the rumors that have been flying about the forthcoming Grand Prix season have now been solidified. It is certain that Mercedes-Benz will stick by its earlier announcement and retire from auto racing for the year. Reports say that Neubauer will retire and some 500 people involved in the M-B racing program will be absorbed in the company. Obviously the Mercedes withdrawal will take some of the spice out of the season's racing. Some of the thrill has to be missing when you know that a car faster than any of those on the circuits is sitting someplace up on blocks. At the same time, what has been a friendly bout until now should blossom into an open one—Fangio vs. Moss. (By the time you read this, round one will have been completed at the Argentine Grand Prix). After some shopping around both drivers have

what's
coming up?

february

4-12, General Motors Motarama, Miami, Fla.
12-26, NASCAR Speedweek, Daytona Beach, Fla.
22-26, Autarama, Connecticut State Armory, Hartford.

march

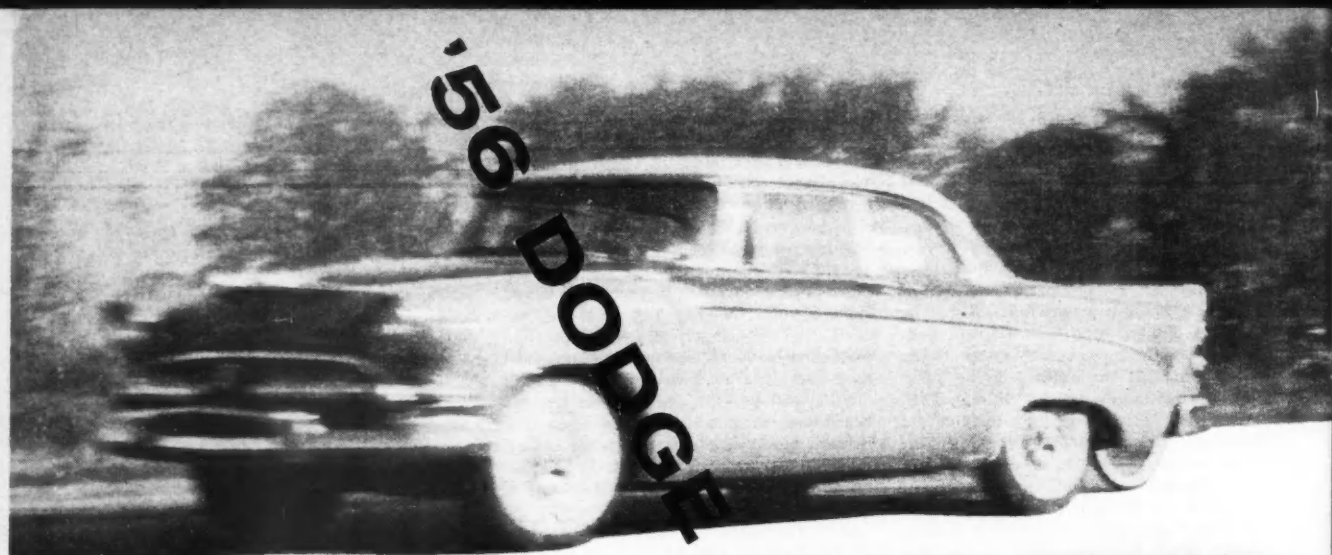
3-11, General Motors Motarama, Los Angeles
24, General Motors Motarama, San Francisco
24, F.I.A. Grand Prix of Endurance, Sebring, Fla.

april

19-29, General Motors Motarama, Boston
21-22, SCCA Race, Pebble Beach, Calif.
21-May 2, International Motor Show, Turin, Italy
28-May 6, International Automobile Show, New York Coliseum
23-29, Mille Miglia, Italy

may

13, Monaco Grand Prix, Monte Carlo
30, USAC 500-Mile Memorial Day Race, Indianapolis, Ind.



ROAD TEST

When the once-modest Dodge shattered all U.S. closed car records at Bonneville, it foretold an all-out sales assault on other makes in the low-medium bracket

AN MT RESEARCH REPORT



DODGE is a serious contender for more than its usual share of sales in the medium-price field for 1956. Competitive anticipation keynotes this car from grille to "flight-sweep" rear fins. In between, items such as increased power, pushbutton shifting, record player, and an abundance of power assists have been incorporated to create a package of "that's for me" sales appeal which will be hard to resist.

Test car: Custom Royal Lancer V8 2-door hardtop with powerpack (230-hp) engine. Equipment included PowerFlite transmission; dual exhausts; power-assisted steering; brakes, windows, and front seat; radio; heater and safety belts. Rear-axle ratio 3.54 with 7.60 x 15 tubeless tires.

Engine: Dodge's bid for performance laurels this year is based upon a revised 230-horsepower "Super-Powered Super Red Ram" V8 with a 3.63-inch bore and a 3.80-inch stroke (highest powered of 3 available V8 engines). This engine boasts 315 cubic inches working under a com-

pression ratio of 8.0 to 1, representing an increase of 45 cubic inches over last year's hemispherical combustion chamber model with dual rocker arms (giving 183 hp).

Other options: In keeping with the general trend, Dodge offers a full complement of optional equipment. In addition to the usual array of power assists, music lovers will find the new record player another reason why motoring is America's greatest pastime. Up to one hour of thoroly mixed music is featured on each side of the 6 records furnished with the unit. Air conditioning, seatbelts, windshield washers and the like make this "optional at extra cost" list as extra as you want it. Safety doorlatches, rear-door safety lock and safety rim wheels are standard equipment.

Aside from PowerFlite, either 3-speed or overdrive transmission can be had in any Dodge model, 6 or V8. These transmissions should be desirable when an economy package (such as the Dodge 6 with overdrive) is under consideration. However, don't treat them too roughly if cou-

pled with the top engine, as they are an old design and slow of gate. Power brake and steering options should be considered only in the light of your either being willing to pay for extreme driving convenience or planning for an economic situation at trade-in time. The cars without these options are adequately easy to handle.

WHAT THE CAR IS LIKE TO DRIVE

Exit and entry: You'll have no trouble getting in or out of this car. Body dimensions are the same as last year, featuring wide-angle door hinges, plenty of headroom and kneeroom from doorsill to windshield cornerpost, and a steering wheel that is high enough to slide under easily.

Driving position: This can best be described as comfortable for most people. Power seat will operate up, down, forward and backward but has no tilt arrangement. Seatback is positioned rather erectly, and a slight feeling of top-heaviness may worry driver until several hours have been

spent behind the wheel. Shoulder- and elbowroom is usually generous, while steering wheel placement allows quick and easy maneuvering in traffic. Seat padding is on firm side but not uncomfortable. Instrument grouping is good and readable. Glove compartment (on far right side) is small.

Vision: Vision is good for a hardtop (usually 2 inches lower than a sedan) despite some distortion in upper corners of sharply curved windshield. Cornerposts are relatively thick but produce no blind spots. Gently sloping hood allows a good forward view of road while both front fenders are just visible over rather high cowl. Rear window affords ample view but as in front, a tall person will have to slump slightly to see below roofline when using rear-view mirror. Side or fender mirrors are a necessary accessory for this car.

Operation of controls: Undoubtedly the

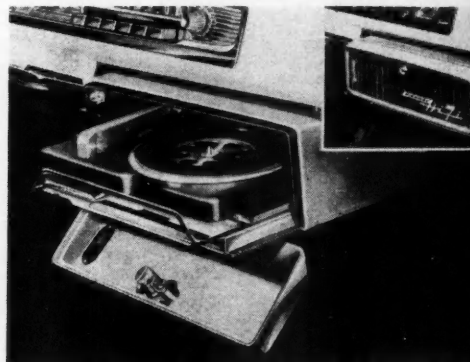
however, if we touched (but didn't really push) any of the other 3 buttons, the engaged button would pop out, leaving the transmission in the previously selected gear and us with absolutely no visual means of knowing what gear the car was actually in. From experience, we found it was far too easy to inadvertently touch another button while selecting a gear and have all buttons in the "out" position with the car actually ready to leap away. We are happy (and proud too, if our early criticism of this feature played a part) to report that a spring on the activator plate has ended the problem on all Chrysler products built since about January 1. A light shining thru the button indicating what gear is engaged would also be a welcome change; at present the light shines thru all buttons, with no differentiation.

Dash controls are easy to reach and operate. Heater, defroster and fresh-air vents perform their designed functions

brakes, is the standard cowl-hung unit introduced last year.

Acceleration: The 230 brake horsepower claimed for this year's next-to-top engine shows a marked improvement in all-around performance. You will especially like improvement in the passing ranges of 30-50 and 50-80 mph (where it should be); as much as 4.4 seconds have been lopped off last year's best time.

Of course, performance drops off down thru the range of the many engine options available. The 218-hp "Super Red Ram" (same as the "Super-Powered, etc." test car except for a 2-barrel carburetor) should give adequate performance but will not necessarily be more economical. The next option, the 189-horse "Red Ram," seems like a poor bargain, considering the small extra cost of the punchier models. The 6-cylinder 131-horsepower "Getaway" engine is strictly for the economy minded



photos by Jim Lodge

most publicized item on the '56 Dodge is its new pushbutton shift control (standard with PowerFlite). Located on an extension of instrument panel to left of the wheel (photo above, right) and out of the way of youngsters are 4 pushbuttons, arranged so as to place N for NEUTRAL at the top, R for REVERSE to the left, D for DRIVE to the right and L for LOW on the bottom. Selection is merely a matter of pushing the desired button. A hydraulic interlock will automatically place the transmission in neutral should the driver inadvertently select R when the car is moving forward above 10 mph. Control from the selector to the transmission is accomplished by means of a single cable and series of linkers. Unit being purely mechanical, maintenance should be at a minimum.

Our test crew found pushbutton driving a welcome addition to comfort with one exception: it had no positive selection lock. For example, if D was engaged, it would remain in its depressed position (indicating that it was engaged) until another positive selection was made. Unfortunately,

with efficiency and relative quietness. Windshield wipers are electrically operated and do an effective job except for center and side areas of the curved windshield (photo at left above).

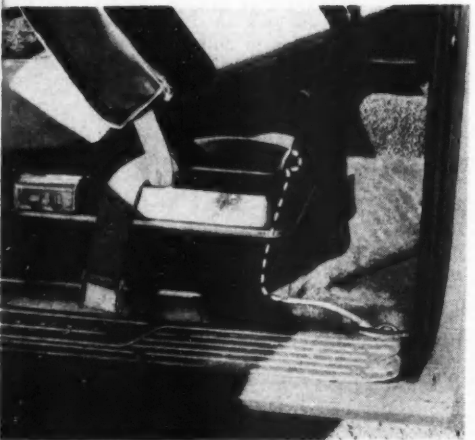
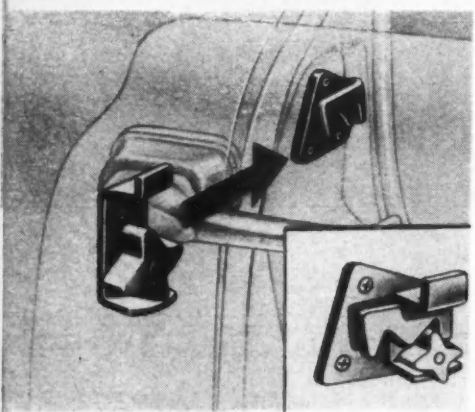
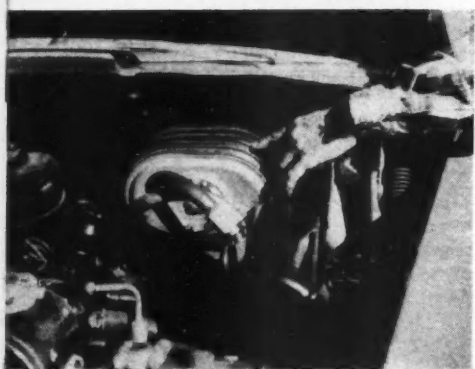
Ease of handling: Dodge has retained its "full-time," coaxial-type power steering with its 3½ turns from lock to lock (5 turns on mechanical type). This, coupled with power assists in practically all other departments, makes for today's most nearly effortless driving. Unless you're used to full-time power steering, you may have a tendency to over-control going into a turn. On the credit side, it is quick to respond and with a little practice should create no particular driving problems. Crosswinds won't give you any trouble. In the city, this car comes close to being the ultimate in driving ease.

Brake and accelerator are positioned for quick and easy foot movement, the brake pedal being wide enough (8 inches) for left-foot braking. Pedal on non-PowerFlite equipped cars, with or without power

(when coupled to overdrive) but obviously must work pretty hard to keep up with present-day traffic. Its long-stroke design, tho troublefree, has a shorter life expectancy than the V8s.

PowerFlite transmission is smooth and responsive thruout full driving range; you're wasting your time to try and out-think it when selecting shifting points. During our full-throttle acceleration runs, automatic shift into DRIVE range occurred at approximately 4000 rpm. By manually shifting from LOW (intermediate gear) into DRIVE at up to 400 rpm over this normal shift point, we could better our 0-60 time by only 0.4 second. The same technique over the quarter-mile course reduced our time by only 0.3 second, a saving hardly worth the effort.

Braking: This year, Dodge is featuring a new power brake design on PowerFlite equipped cars, incorporating a cowl-mounted bellows maintained at atmospheric pressure (photo next page). Upon brake application, engine vacuum collapses the



bellows, transferring the resultant force thru a lever arrangement to the master brake cylinder. This produces a power assist of 2.5 times the pedal's mechanical advantage. A reserve vacuum tank takes over when the engine is stalled. In the event of complete vacuum failure, brakes can be operated by mechanical means alone, but we braked hard from 60 mph with ignition off and had power all the way.

Using MT's standard brake test consisting of 12 consecutive stops from 60 mph at a deceleration rate of 15 feet per second per second (results shown in table), a slight fade was noticed after the 4th stop. On the 5th stop, pedal travel increased to an alarming degree, and during the 6th we ran out of brake. No grab or swerve was noticed. Brakes returned to usefulness in 3 minutes. Complete recovery required 5 minutes of 50 to 60 mph driving. During this "cooling off" period, a slight tendency to pull right or left was noticed until brakes had completely returned to normal.

Roadability: Characteristically, Dodge has retained its soft ride and with no important chassis changes, it inherits the same basic roadability that was evidenced in the '55 model.

Despite very flexible springs, at practically any speed road dips are taken in stride and without oscillation, thanks to a set of fine Oriflow shock absorbers. Potholes and rough surfaces are ironed out by this same combination and directional stability is exceptionally good on both flat and high-crowned roads. Hard cornering will produce substantial body lean, but the car has no wild tendency to take off into the brush. It can be made to break loose but in most cases a quick twist of the wheel or rapid increase of power is all that is needed to put it back in the groove.

High speed gives one a feeling of overall lightness. Response to the slightest wheel correction is instantaneous. Although some vibration was noticed from 80 mph up, the car seemed willing to obey our every command.

Characteristic of soft springs, a definite nose dip or rear-end squat is noticeable during hard braking or fast acceleration. However, this has no noticeable effect on the steering geometry.

Ride: Acoustically, this car has good control. You will feel tar strips and other road irregularities (in spite of soft springing) but you won't hear them. Proper use of rubber-mounted components and body panel soundproofing is responsible for this low sound level compared to that of last year's model.

Dodge safety belts wrap around transverse bar at rear of seat. Top of seat frame is a narrower bar, encircled by a steel cable (dotted line) which goes down thru frame and under rear compartment mat to bolt in floor

WHAT THE CAR IS LIKE TO LIVE WITH

Passengers should find this car comfortable and relaxing under most conditions, tho twisting or mountain roads will produce enough body roll for discomfort.

Riding in the front seat: Plenty of legroom, shoulder space and headroom. Firm but comfortable padding under non-slip upholstery with seat placed at chair height. Controls are easily reached and can be operated without visual attention. Excellent armrests, convenient ashtray placement, and absence of reflections from the dash panel go a long way toward creating all-around comfort.

Riding in the rear seat: Under most conditions, very comfortable. Visibility is good and the rather firm seat is wide enough to accommodate 3 average size people without discomfort. Legroom is adequate although noticeably less in the 2-door hardtop, especially if the front seat is all the way back. Plenty of headroom helps here; you have a tendency to sit in a more upright position. The rear doorsill sweeps back farther than usual, giving you more head and shoulder clearance when entering or leaving the car.

ECONOMY AND EASE OF MAINTENANCE

Fuel economy: It does not surprise us that this year's substantial rise in horsepower has been accomplished at some expense in economy. You can't always add cubic inches onto a basic design without adversely affecting economy. The surprising thing is the performance increment gained at so little cost in economy. MT's simulated traffic course, using Mobilgas Special, produced an average of 13.4 mpg, an increase of about 1 mpg over last year's model. Consumption at steady speeds was up slightly (see table). The smaller V8 should be considerably better at steady speeds and the 6 still better.

Is the car well put together? Workmanship both inside and out is above average. Panels fit well and the paint is smooth and glossy. Upholstery, which was the typical Jacquard-type with metallic thread, was excellently tailored as was the headliner. Close-fitting windowsills, instrument panel trim, and floor mats add up to an A for workmanship. The rather spacious trunk was well-lined and dustproof.

How did it hold up? We drove our test car 673 grueling miles in 2 of the more strenuous days of testing without developing trouble, mechanical or otherwise. Body tightness and engine responsiveness seemed to be unchanged except for a slight rattle in the steering (Continued on page 55)

P E R F O R M A N C E

'56

(230-bhp engine)

ACCELERATION From Standing Start
0-30-mph 4.2 0-60 mph 11.8
Quarter-mile 18.6 and 77 mph

Passing Speeds
30-50 mph 4.4 50-80 mph 13.6

TOP SPEED Fastest run 107.1 Slowest 104.0
Average of 4 runs 105.1

FUEL CONSUMPTION Used Mobilgas Special
Steady Speeds
20.8 mpg @ 30 19.2 mpg @ 45
16.2 mpg @ 60 13.5 mpg @ 75
Stop-and-Go Driving
13.4 mpg over measured course
12.5 mpg tank average for 673 miles

STOPPING DISTANCE 155 feet from 60 mph

BRAKE FADE Slight after 4th stop from 60
Complete during 6th stop
Partial recovery 3 minutes
Complete recovery 5 minutes

SPEEDOMETER ERROR Read 32 at true 30, 49 at 45,
65 at 60, and 81 at 75

'55

(183-bhp engine)

From Standing Start
0-30 mph 5.2 0-60 mph 16.2
Quarter-mile 20.3 and 68 mph

Passing Speeds
30-50 mph 7.9 50-80 mph 15.3

Fastest run 102.7 Slowest 101.0
Average of 4 runs 101.8

Used Mobilgas Regular
Steady Speeds
21.5 mpg @ 30 20.1 mpg @ 45
16.8 mpg @ 60 13.9 mpg @ 75

Stop-and-Go Driving
14.3 mpg over measured course
13.1 mpg tank average for 600 miles

152 feet from 60 mph

Read 30 at true 30, 47 at 45,
62 at 60, and 78 at 75

S P E C I F I C A T I O N S

ENGINE: Ohv V8. Bore 3.63 in. Stroke 3.80 in. Stroke/bore ratio 1.047:1. Compression ratio 8.0:1. Displacement 315 cu. in. Advertised bhp 230 @ 4400 rpm. Bhp per cu. in. 0.73. Piston travel @ max. bhp 2786.7 ft. per min. Max. bmep 151.3 psi. Max. torque 316 lbs.-ft. @ 2400 rpm.

TRANSMISSION: Standard transmission is 3-speed synchromesh with helical gears. Automatic transmission is PowerFlite, 3-element torque converter with planetary gears. Overdrive transmission is standard shift with planetary gears.

RATIOS: Drive 1.72 x converter ratio and 1.00 x converter ratio; Low 1.72 x converter ratio; Reverse 2.39 x converter ratio.

REAR-AXLE RATIOS: Standard 3.73; PowerFlite 3.54; Overdrive 4.10.

STEERING: Number of turns lock to lock: mechanical 5, power 3.5. Overall ratio: mechanical 27.1 to 1, power 20.1 to 1. TYPE: Mechanical, worm and 3-tooth roller. Power,

rack and sector and recirculating ball nut.

WEIGHT: Test car weight (with gas, oil, and water) 3875 lbs. Test car weight/bhp ratio 17.8:1.

TIRES: 7.60 x 15 tubeless.

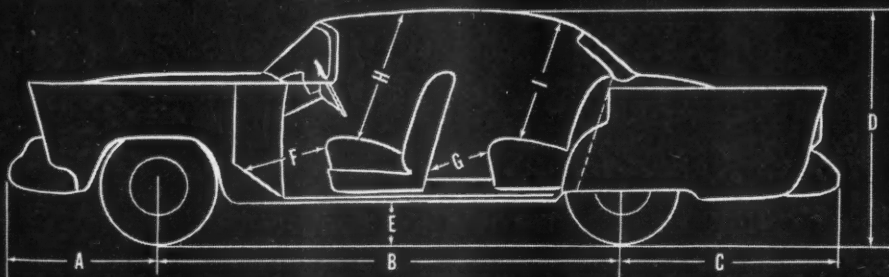
PRICES: (Including suggested retail price at main factory, federal tax, and delivery and handling charges, but not freight.) CORONET 6 2-door sedan \$2155, 4-door sedan \$2229. CORONET V8 2-door sedan \$2263, 4-door sedan \$2336, 2-door hardtop \$2399, 4-door hardtop \$2513, convertible \$2639. ROYAL 4-door sedan \$2474, 2-door hardtop \$2544, 4-door hardtop \$2658. CUSTOM ROYAL 4-door sedan \$2584, 2-door hardtop \$2654, 4-door hardtop \$2768, convertible \$2873. STATION WAGONS 2-door Suburban 6 \$2452, 2-door V8s \$2560 and \$2689, 4-door 6-passenger V8s \$2677 and \$2829, 4-door 8-passenger V8s \$2783 and \$2935.

ACCESSORIES: PowerFlite \$183, overdrive \$103, power steering \$92, power brakes \$38, power seat \$70, power windows \$102, radio \$110, heater \$88, air conditioning \$567.

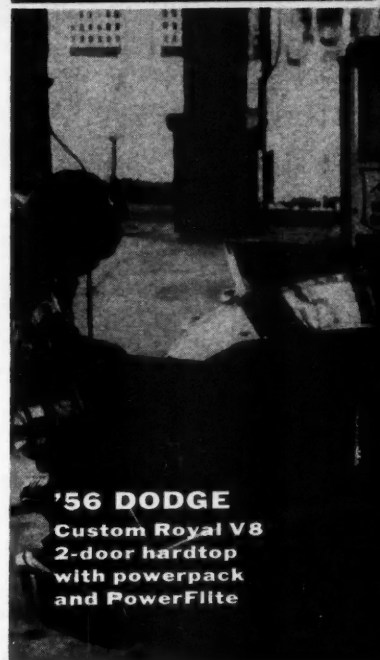
DIMENSIONS

A FRONT OVERHANG 38.7
B WHEELBASE 120.0
C REAR OVERHANG 53.3
D OVERALL HEIGHT 62.7 (60.8 LOADED)
E MINIMUM GROUND CLEARANCE 5.7
(at oil pan)
F FRONT LEGROOM 44.5
G REAR LEGROOM 45.0

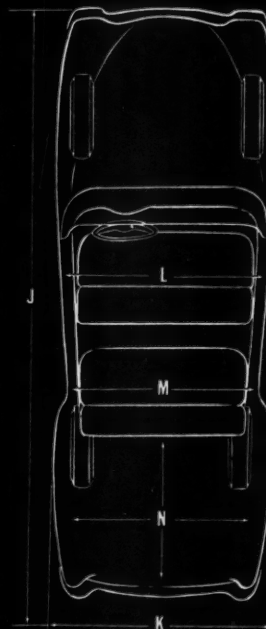
H FRONT HEADROOM 35.5
I REAR HEADROOM 34.9
J OVERALL LENGTH 212.0
K OVERALL WIDTH 74.6
L FRONT SHOULDER ROOM 58.0
M REAR SHOULDER ROOM 57.0
N TRUNK CAPACITY N/A



MT ROAD TEST



'56 DODGE
Custom Royal V8
2-door hardtop
with powerpack
and PowerFlite





'56 CHEVROLET ROAD TEST

Some say we were too enthusiastic about the '55 Chevy. They may say so again this year. Read this test before you decide that we're biased

AN MT RESEARCH REPORT

STAYING WITH A GOOD THING, Chevrolet billboards tell us "The Hot One's Even Hotter." And they've got something to back up their insinuation that—saleswise or NASCAR-wise—'55 was a hot year indeed.

But what about the '56? You see only a small part of the Chevy changeover on those billboards or in the showrooms, for engine modifications, minor chassis changes and additional models in the line help dress up what would normally be a simple 2nd-year facelift story.

Test car: Most deluxe 2-door hardtop, equipped with Powerglide, power steering and brakes, powerpack V8, 6-passenger seatbelt installation, best radio, biggest heater available.

Other options: Accessory and convenience options include nearly anything you can think of or afford—air conditioning (\$125 cheaper this year), power-moved seat and windows, unique option of seatbelts and shoulder harness, padded, glare-proof dashboard top covering. Desirable option again this year, electric windshield wipers are worth slight (\$11) extra cost, but may be installed without order in your car on delivery depending on where you live. (Chevy vacuum wipers have no booster, aren't installed on cars assembled in or sent to states like California, where this setup isn't okayed by legislature.) Turn signals are standard on all '56s, powerpack is \$25 cheaper than in '55.

Power choices, available in any of Chevrolet's 19 models (including 2 new 9-passenger station wagons, 2 new 4-door hardtop sedans), range from 140-horsepower 6 (same engine in Powerglide and standard-shift cars this year) thru 162- and 170-horsepower V8s, to 205-hp powerpack engine. A pre-Daytona presstime announcement brings another power option to light: dual quad (2 4-barrel carb) manifold, true Corvette cam with mechanical lifters and lightweight valves;

cylinder heads have larger intake and exhaust passages. Corvette's center-takeoff exhaust manifold is topped with a pair of oil-wetted (not oil-bath) aircleaners. Output is 225 bhp and it can be had in *any* model, stick-shift or Powerglide.

Sturdy 6 has higher compression ratio (8 to 1), higher-lift camshaft, hydraulic lifters. (Last year's 123- and 136-hp sixes are not available for '56.) Lowest-output V8 remains unchanged, is used only with 3-speed and overdrive transmissions. The 170-hp (Powerglide only) engine had no counterpart in '55, when powerpack raised 162-hp engine to 180; it differs from basic V8 only in having a higher-lift camshaft; both have 2-barrel carburetor, single exhaust manifold. All engines, regardless of transmission used, have hydraulic valve lifters.

Scanning the option sheet you'll find that you can now have dual exhausts on station wagons (or sedan deliveries) with powerpack V8s; change in gas tank contour makes this possible for '56. Revised cylinder block casting and reshaped oil pan (for steering gear clearance) lets you order a built-in, full-flow type oil filter at extra cost (last year's oil filter was the bypass type).

Engine: Test car's high-output V8 gains 14 per cent power increase over '55 thru 2 major design changes: The same high-lift camshaft as used in the 170-hp V8 (not the '55 Corvette cam, as rumored, but a cam with less lift and better low-speed performance than the sports car's cam provides), and a compression ratio boost to 9.25 to 1 ('55 engines, other '56s have 8.0 to 1 ratio).

Internal changes include modified intake manifold heat riser (enlarged passages for greater volume of hot gases to aid vaporization of fuel, prevent carburetor icing), deeper heat grooving in throttle body of 4-barrel carburetor for improved warm-up. Looking at a '55 and '56 powerpack Chevy from beneath, you'd no-

tice a difference in exhaust pipe setups; '56 has longer mufflers and shorter exhaust pipes that are designed to minimize exhaust noise.

A mid-'55 change was made in automatic choke operation to permit quicker hot-engine restarting; other changes (exclusive to '56s) were made to water temperature gauge and sending unit for quicker, more accurate readings; sparkplugs are now the 4-rib type with deep ribs on the ceramic body to increase surface distance between plug terminal and body. This gives resistance to spark "flash-over" (bypassing the electrodes), permitting the plug to function normally even under adverse conditions.

Giving the V8 greater high-speed output thru higher compression ratio and camshaft changes necessarily raises engine rpms; this fact makes you wonder why hydraulic lifters are standard this year in most V8s, excluding only the just-announced hottest version. Chevrolet engineering sources tell us that at announcement time last fall, mechanical lifters were scheduled as an option to ward off hydraulic lifter pump-up under tough circumstances. But Chevrolet engineers pointed out that cars in family service certainly don't need them. Because of this, and the competitive advantage of having hydraulic lifters (they're quieter in operation than solid lifters) in most all engines, they had no qualms about dropping mechanical lifters for this year.

Other things new about the engine's accessories boil down to the full-flow oil filter, heavier clutch for powerpack V8s. Filter came about thru increased demand from truck owners who need the heavy-duty filter under dusty, dirty conditions; increased V8 truck orders made it practical to switch to the integral filter in all V8s. Beefed-up clutch came as a natural by-product of higher torque and rpms. Clutch now has woven asbestos face material instead of molded type, has pressure plate of coil springs replacing former diaphragm

spring, and pressure-plate ventilation is aided by a heat-dissipating, arched cover.

WHAT THE CAR IS LIKE TO DRIVE

Exit and entry: Many drivers stepping into the '56 Chevy will find that the steering wheel comes a little closer to their legs than in most cars; but the seat-to-wheel relationship doesn't hinder getting in or out of the driver's side.

Driving position: Long-legged drivers will find the steering wheel nudging their right thigh as they step on the brake pedal (particularly true of standard brake setups); test car's low-set power brake pedal alleviated much of this discomfort. The tallest of our drivers mentioned no discomfort, but felt that additional rearward seat travel would be welcome. Combination of high seat, low-set wheel spells good control, untiring long-mileage trips.

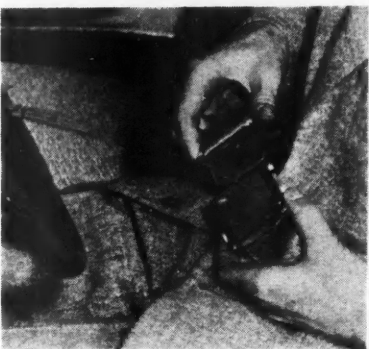
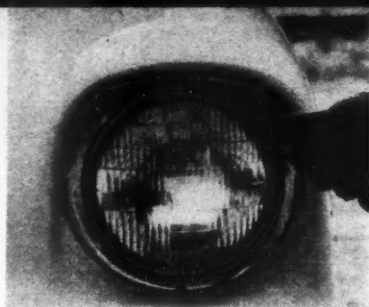
Vision: Chevrolet wraparound windshield and wiper setup rates praise on 2 major counts: glass is free of bothersome distortion, wipers work efficiently when needed to clear snow or road grime. (We disliked noise made as wiper blades hit base molding at the center under full-speed operation; trouble has been eliminated in cars built after about January 15.

Chevy's standard inside rear-view mirror is still not wide enough to take full advantage of the broad expanse of rear glass, yet to put a wider mirror in the present one's position constitutes forward-quarter blindspot. (Panel-mounted mirror was used in '53 hardtops, wasn't as satisfactory as present mirror when middle passenger blocked all view to rear.) Altho '56 hood is longer than '55's, forward vision remains excellent; front fenders are easy to see, but rear ones aren't readily in view from normal seating position.

Instrument panel: Instruments and their positions remain unchanged. Crowned panel houses high-set speedometer, fuel and temperature gauges, ammeter, oil pressure warning lights; all are directly in front of driver, all are easy to see and read.

Operation of controls: Light switch at left (includes instrument light control with full-range rheostat) and cigarette lighter at right of instrument group are handy for driver (altho passengers reach into control area to use the lighter). Ash-tray at driver's side of center glove compartment is handier for driver than passengers. Legible, positive Powerglide quadrant rests at base of fan-shaped instrument housing; easy-to-use, T-handled parking brake is at left of steering column, joins with transmission parking pawl for positive rear-wheel lockup.

Chevrolet safety belts are unique among those offered this year. Loose, "outside"



end of belt terminates in a flat, slotted metal plate; to fasten belt, you simply poke this plate into the buckle housing on the other end of the strap—there's no loose belt to draw thru the buckle. Spring tension within the buckle snaps a "finger" into the slotted plate, gripping it until released by an upward pull on the housing (like conventional buckle setup). Simple belt-length adjustment is at the buckle end, where you run the belt thru a knurled roller within the housing. Thus, when you release the catch, the loose-end plate is freed immediately—again, there's no surplus length of belt to run thru the catch. (Dealers are finding many belt-buyers among new-car and old-car owners, according to local agencies which we canvassed in vain looking for Chevy's optional shoulder harness installed in a '56.)

Ease of handling: Owners of '55 Chevys will possibly notice slightly truer steering, maybe a little more steering wheel steady-

ness, particularly on cars equipped with power steering. This boost to handling ease is the result of a one-degree increase in caster angle. Steering arm ends were raised slightly to retain correct steering geometry; but this change for the better is coupled with the need for adding shims to the steering knuckle stops to keep front wheels from striking the frame in a hard, tight turn; result is a 3½-inch increase in turning diameter, a change unnoticed by MT's drivers, for the car remains very easy to maneuver in tight spots.

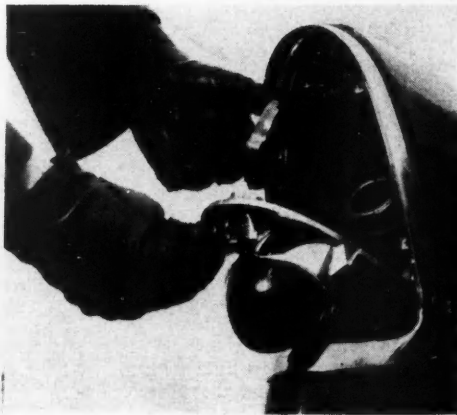
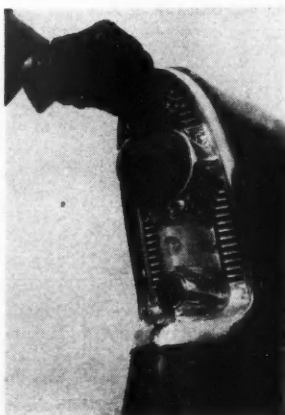
Not only do we admire the steering ease of the standard sedan, but believe you will be surprised to find that power steering isn't as noticeable as you might think. Chevy power steering, driven via shaft from the generator, doesn't alter the number of lock-to-lock wheel turns over the standard system; standard or power steering is vast improvement over the pre-'55 Chevy set-ups because of stability of ball-joint front end.

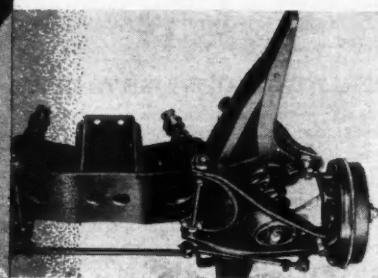
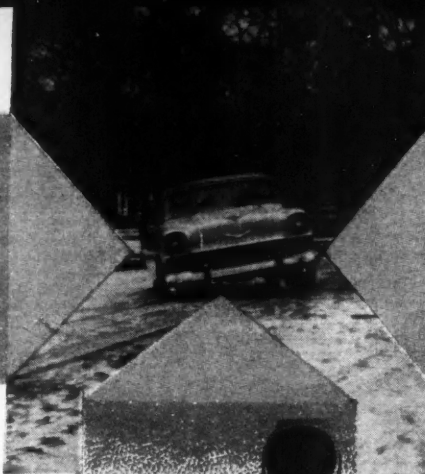
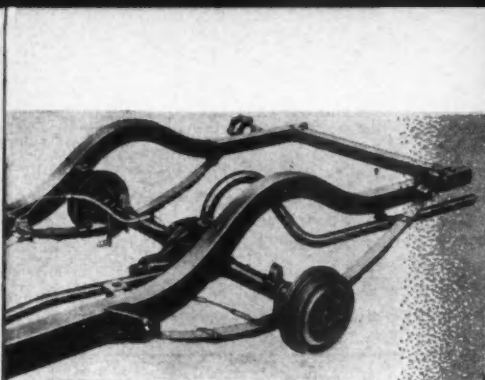
Without the steering boost, Chevy is amazingly easy to handle at normal and high road speeds. Only in parking will power steering really be appreciated, for the front wheels of any of our cars are generally hard to turn when the car is barely in motion or not moving at all. (Some feel that power steering is more practical on the Chevy 6 than the V8, for the in-line engine adds some 30 pounds to the front end.) There was no disturbing steering wheel pull or vibration when crossing cartracks, going off road shoulders, driving in ruts.

Acceleration: MT has probably expended more complimentary copy on the V8's acceleration than on any other phase of Chevy performance; but it is an impressive machine when you realize that small-size V8's piston displacement (lowest of the Big 3 powerpack V8s) puts out surprising get-up-and-go.

Where the new cam should make its biggest showing—50-80 mph—time was lowered 3.5 seconds from stock '55's time,

photos by Jim Lodge and Al Kidd





0.9 seconds from '55 powerpack's 12.9-second time. New powerpack was noticeably livelier than last year's 182-hp job at turnpike speeds, but regardless of the fact that the '56 went faster, it felt no better at low speeds. Multi-carb powerpack should be better at low speeds only.

Best times in all tests were in DRIVE range only; holding Powerglide in LOW (past DRIVE's 58-rph automatic shift point) for faster times was futile.

Braking: One of the finest features introduced by Chevy in '55 continues to impress us—absence of nosedive under all stopping conditions, including panic stops. This reaction comes from resistance built into front suspension geometry, doesn't utilize control rod or bars. (Upper control arm is tilted, giving effect of radius rod as rotational force of suspension tries to counteract downward force of brake stop; utilizing forces that cause car to nosedive, Chevy suspension reduces dive by some 45 per cent.) Brakes play an important part in the control of nosedive. Stationary brake shoes resist turning drums when brakes are applied; and since brake shoes, wheel cylinder and anchor pin are all anchored to the spindle support, brakes exert a twisting force on the support in the direction of the turning wheel, setting up the force to activate dive control.

Brakes, unchanged mechanically, are good-sized (11-inch drums), bonded-lining type, with total lining area on the smallish side (2-inch front lining width, 1¾-inch lining width on rear wheels), but braking effectiveness is on the high side. In MT's fade tests, there was no sign of fade until 8th stop of the 12-stop series (repeated normal-but-hard stops from 60 mph at a fixed deceleration rate). After that, fade increased until 11th and 12th stops—the last stop under full fade condition. (But in our analysis form, we wrote "Very good for low pedal," meaning that there was some "pedal" left; as fade condition increases, so does ineffective pedal travel. In severe cases, a low-set power brake pedal which offers little mechanical leverage can be flat on the floorboard,

even tho there may be some braking ability left.) Panic-type stop immediately after completion of brake checks resulted in erratic swerve to one side, but brakes returned to normal after about 2 minutes of 50 mph driving.

Roadability: Rating a tie for tops in our evaluation of the '55 test cars, Chevy not only continues to rate praise, but is bucking for more kudos thru a couple of suspension changes.

Some of the unwanted axle movement (and resultant wheel bounce on washboard road surfaces) noted in '55 has been dampened not by struts or shock absorber changes, but by the simple expedient of widening the rear spring hangers an inch; this allows more rubber in the bushing to resist compression from axle sidethrusts. Test car's rear wheels bounced more independently than before, when whole rear end was prone to move from line of travel.

Directional stability—more important in power steering setups where there's some loss of road feel to the driver—has been improved, say Chevrolet engineers, by the previously mentioned change in front-end alignment.

Not many things can upset Chevy's composure on the road; it weathers normal rigors with ease. Only when it's bounced hard by a bump, or rocked into a chuck-hole in the midst of a fast turn does it betray its relatively light weight and semi-stiff suspension and skip from its initial track. But there's no reason to panic; recovery from either bumps, dips or pot-holes is rapid, non-jarring in most cases, and free from wallowing or pitching.

A wider spring perch greatly reduces sidesway and hopping in the rear end, giving better handling characteristics, as do the ball-joints and tilted control arm in the front end. The tilting lessens nosedive due to braking by 45 per cent. Steering linkage has been altered and turn ratios changed to give driver further ease in steering and stopping

Ride: We're often inclined to be so wrapped up in the Chevy's handling, acceleration and roadability virtues that we tend to treat ride lightly. But there's no reason to dismiss it, because it's good. Not on the soft side, Chevy ride benefits from car's inherent stability—that is, passengers aren't pitched or rocked from side to side on twisting roads, or see-sawed back and forth in stop-and-go driving.

Seats aren't soft either, but they soak up a great deal of chassis movement, level out most minor disturbances. Washboard roads are felt thruout the body, aren't too objectionable on a seat-of-the-pants evaluation. Test car's seatbelts, aside from giving feeling of security to passengers, were found to be a substantial aid against centrifugal force of hard cornering.

WHAT THE CAR IS LIKE TO LIVE WITH

Riding in the front seat: Your passengers shouldn't have any complaint. Doors open wide, stay put at stop positions. If you're used to a sedan, you'll find hardtop's roof-line unblocking your hat.

Legroom is about average, regardless of seat position; headroom, tho good, was about 1½ inches less than in '55's 4-door sedan test car. (Chevy's new 4-door hardtop shares lower overall height dimension with 2-door hardtop; front seat interior dimensions of both hardtops are reduced roughly ½ to 1½ inches compared to standard sedan.)

Riding in the rear seat: Hardtop's split seat is set up for maximum ease of getting into rear seat from passenger's side; but getting into rear seat from driver's side, you'll find that left-front seatback doesn't fold forward (Continued on page 48)

P E R F O R M A N C E

'56

(205-bhp engine)

ACCELERATION From Standing Start
0-30 mph 4.2 0-60 mph 10.7
Quarter-mile 18.3 and 76 mph

Passing Speeds
30-50 mph 3.9 50-80 mph 12.0

TOP SPEED Fastest run 109.1 Slowest 106.0
Average of 4 runs 108.0

FUEL CONSUMPTION Used Mobilgas Special
Steady Speeds
20.8 mpg @ 30 19.4 mpg @ 45
16.6 mpg @ 60 13.6 mpg @ 75

Stop-and-Go Driving
11.9 mpg over measured course
14.2 mpg tank average for 800 miles

STOPPING DISTANCE 141 feet from 60 mph

BRAKE FADE Slight on 8th stop from 60
Complete on 12th stop
Complete recovery 2 minutes

SPEEDOMETER ERROR Read 31 at true 30, 47 at 45,
63 at 60, and 78 at 75

'55

(162-bhp engine)

From Standing Start
0-30 mph 4.3 0-60 mph 12.3
Quarter-mile 19.0 and 71 mph

Passing Speeds
30-50 mph 4.4 50-80 mph 15.5

Fastest run 97.8 Slowest 96.3
Average of 4 runs 97.3

Used Mobilgas Special
Steady Speeds
20.6 mpg @ 30 19.2 mpg @ 45

Stop-and-Go Driving
13.7 mpg over measured course
14.5 mpg tank average for 1241 miles

146 feet from 60 mph

Read 29 at true 30, 44 at 45,
60 at 60, and 76 at 75
101 at top speed

S P E C I F I C A T I O N S

ENGINE: Ohv V8. Bore 3.75 in. Stroke 3.00 in. Stroke/bore ratio 0.80:1. Compression ratio 9.25:1. Displacement 265 cu. in. Advertised bhp 205 @ 4600 rpm. Bhp per cu. in. 0.773. Piston travel @ max. bhp 2300 ft. per min. Max. bmep 152.5 psi. Max. torque 268 lbs.-ft. @ 3000 rpm.

TRANSMISSION: Standard transmission is 3-speed synchromesh with helical gears. Automatic transmission is Powerglide, 3-element torque converter with planetary gears. Overdrive transmission is standard shift with planetary gearset.

REAR-AXLE RATIOS: Conventional 3.70, Powerglide 3.55, Overdrive 4.11.

RATIOS: Drive 1.82 x converter ratio and 1.00 x converter ratio; Low and Reverse 1.82 x converter ratio. Maximum converter ratio at stall 2.1:1.

STEERING: Turns lock to lock 5.34, mechanical and power. Overall ratio: mechanical 25.7:1, power 23.3:1. TYPE (Mechanical and

Power): semi-reversible recirculating ball.

WEIGHT: Test car weight 3760 lbs. Test car weight-bhp ratio 18.34:1.

TIRES: 6.70 x 15 tubeless.

PRICES: (Prices are for 8-cylinder models; 6-cylinder models \$92 less.) ONE-FIFTY business coupe \$1799, 2-door sedan \$1891, 4-door sedan \$1934, 2-door station wagon \$2236. TWO-TEN 2-door sedan \$1977, 4-door sedan \$2020, club coupe \$2036, 2-door hardtop \$2128, 4-door hardtop \$2182, 2-door station wagon \$2280, 4-door station wagons \$2328 and \$2413. BEL AIR 2-door sedan \$2090, 4-door sedan \$2133, 2-door hardtop \$2241, 4-door hardtop \$2295, convertible \$2409, 4-door station wagon \$2547, Nomad station wagon \$2673.

ACCESSORIES: Powerglide \$179, overdrive \$108, power brakes \$37, power steering \$92, power windows \$107, 2-way power seat \$103, radios \$85, \$64 and \$105, heaters \$42 and \$65, air conditioning \$431.

DIMENSIONS

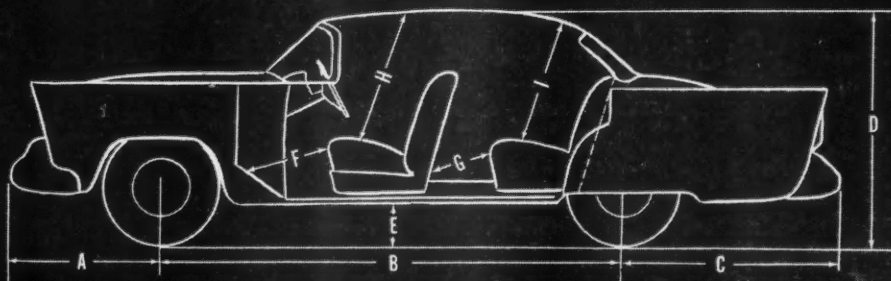
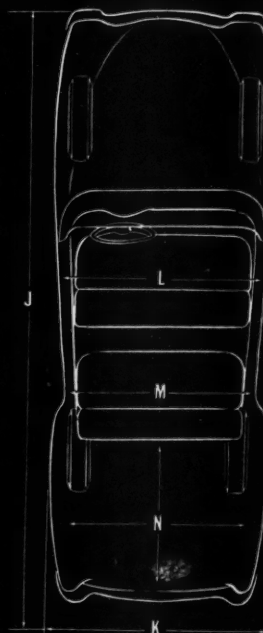
A FRONT OVERHANG 34.4
B WHEELBASE 115
C REAR OVERHANG 48.1
D OVERALL HEIGHT 68.5 (62.0 unloaded)
E MINIMUM GROUND CLEARANCE 6.5
(at exhaust pipe)
F FRONT LEGROOM 43.7
G REAR LEGROOM 42.6

H FRONT HEADROOM 35.6
I REAR HEADROOM 35.6
J OVERALL LENGTH 197.5
K OVERALL WIDTH 73.7
L FRONT SHOULDER ROOM 56.8
M REAR SHOULDER ROOM 56.4
N TRUNK CAPACITY N/A

MT ROAD TEST



'56 CHEVROLET V8
Bel Air 2-door hardtop
with powerpack and
Powerglide



'56



MERCURY

Ever drive a car and have it remind you of another? That's what happened

AFTER A FULL-SCALE ROAD TEST on the new Mercury Montclair, one can't help wondering if the "Big M" so prominent in this year's advertising campaign couldn't just as easily have stood for Mexico. Had the Pan-American race been run this time, there isn't much doubt that Mercury would have been a strong contender while the Lincolns stayed home. As one MT tester remarked, "If you could drive this car blindfolded, you'd swear it was a pre-'56 Lincoln [perennial Pan-Am winner]—it feels just the same." There was no Mexican road race, but, happily, there's still a new Mercury. So in addition to the features that have attracted Merc buyers in the past (including MT's '55 top styling award among 4-door sedans), '56 buyers get what may well have been a true race-bred automobile. Practically all Mercury rooters should be happy about it.

Test car: Montclair 2-door hardtop with Mercomatic, Multi-Luber, radio, and heater along with power-operated brakes, steering, seat, and windows.

Engine: Bore and stroke (3.75 x 3.30 in '55) have been increased to 3.80 x 3.44 to up Mercury's displacement to 312 cubic inches this year. Test-car horsepower (standard on all Monterays and Montclairs with Mercomatic) rated at 225 (198 maximum in '55) with 9.1 compression ratio. Changes in displacement and compression ratio are only major ones over '55's go-getting engine.

Other options: Test car lacked only air conditioning and the up-and-comingest "new" innovation, seatbelts. A 3-speed transmission is standard, and overdrive optional, on all Monterays and Montclairs

in 210-horsepower form, with 8.1 compression ratio. Customs with Mercomatic also use this engine. In general, Mercury can satisfy you all along the line from Medalist austerity (available in 2-door form only) thru bright Custom and Monterey models to the plush, loaded Montclair, which includes the only convertible and 4-door hardtop in the line.

WHAT THE CAR IS LIKE TO DRIVE

Exit and entry: Just fair on MT's test car—you pay for Montclair's good-looking lower roof line (about 2 inches less at doorsill than other Mercs) with a little less ease in sliding into the front seat. On the good side of the ledger are generally roomy driver's compartment, lots of legroom around the standard, dished, safety steering wheel, and lack of under-dash knee obstructions. Wide door opening and 2-position stops seem to halt the feud between knees and wraparound cornerposts.

Driving position: Low, moderately soft seats with very comfortable backs make for no noticeable body strain, even after long drives. If you go for the 4-way seat, you name your own position among the nearly infinite variations. Spaciousness around the wheel along with excellent head- and shoulder room give added control and confidence to the driver—no cramped feeling for those who like to sit close to the wheel; worlds of room if you like to sit well away from it. Large brake pedal sits close to floor—equally good for advocates of right- or left-foot braking.

Vision: Good vision is the main attribute of a wraparound windshield, and you get it in the Merc, altho a lower hood line would make it much better for view of

road immediately ahead. Right front fender and rear fenders are visible from driver's seat. Still some distortion in corners of windshield and in top of the large rear window. Distortion is a matter of quality control and Mercury is stiffening its standards in an attempt to eliminate it. Windshield wipers operate efficiently, sweep as well as most on wraparound windshields but without completely solving problem of cleaning wider expanse. Mercury is presently experimenting with 3 wiper blades and overlapping blades—among other systems—trying to improve this growing complaint. Double ball-joint mirror can be moved out of the line-of-sight, generally eliminating a blind spot here for most drivers, adapts to any stature.

Instrument panel: Basically same as in '55, large fan-shaped panel is still one of the best for readability, lack of glare and highlights. Catering to the man who likes to know just where he stands, Mercury retains gauges which are fast vanishing in favor of warning lights on many cars, and "old-fashioned" MT testers still like them. Hooded panel (and all of dash top) of test car was padded and covered (optional) to prevent glare, ease crash danger. Glove box is on right, as are ashtray and lighter—all a little too far from driver for top convenience. This is an economy carryover from '55, will likely be changed next year.

Operation of controls: Major controls are all convenient for driver, easy to operate. Aircraft-type heat and vent controls are to right of driver, rate high for simplicity, ease of operation. T-handled parking brake remains on left, has warning light to combat forgetfulness. Multi-Luber con-

ROAD TEST

AN MT RESEARCH REPORT

to us with this one

controls consist of 2 elements (button and signal light) which flank center-mounted radio dial.

Ease of handling: With power steering the Mercury has 5 turns from lock to lock (25.4 to 1 overall ratio) and requires quite a lot of cranking in city driving. For a largish car it has just a light-enough touch and parks without strain. Out on the road, you get the feel that you should have from any steering unit—positive and firm. You'll like the general accuracy in steering at speed, and won't be bothered with constant corrections. General stability of car, and flat cornering characteristics, make the whole driving operation simpler still.

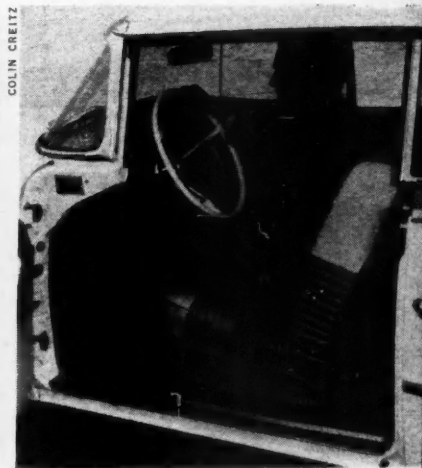
Acceleration: Despite added cubic inches and the resulting increase in horsepower,

the '56 Merc test car is only slightly improved in some phases of acceleration over the '55 model. It is just possible that all the power equipment on this year's car, as versus last year's almost "naked" one, may account for the lack of great improvement. Best gain is in passing range—the Montclair clipped a full second off the 50-80 time made by MT's '55 test car. Mercomatic is just about as smart as the best driver, and doing your own shifting from LOW range takeoffs results in only slight improvement over straight DRIVE, full-throttle accelerations. Mercomatic automatically shifts out of low gear at about 40 mph (indicated 45), and from intermediate to high at about 67 (indicated 74). We got our best times by holding it in LOW range to about 48 mph, but the resulting difference scarcely warrants the

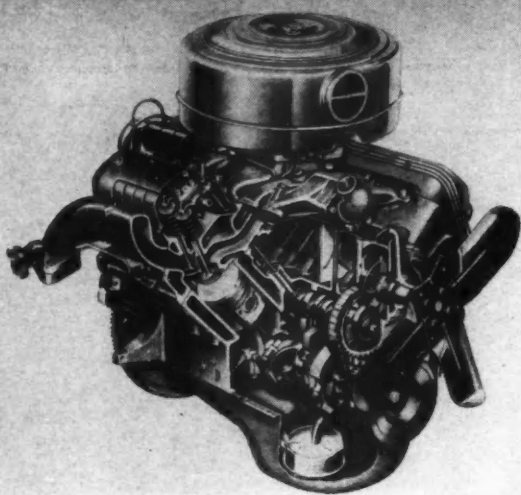
extra manipulation of the selector.

Braking: In MT's 12-normal-stop fade test, Merc's new fixed-anchor-type brakes fared slightly better than average. The 1st 5 stops at a deceleration rate of 15 feet per second per second from 60 mph showed no fade at all. The 6th and 7th stops required more pedal pressure, and slight fade began to set in. On 8th stop, with full pedal pressure, car just did come to a stop. After that car would not stop where driver wanted it to, even with pedal all the way to floor. After a short rest (about 5 minutes), brakes made a good enough recovery to stop car adequately. Thruout test, as fade set in, so did slight pull to one side or another and this continued after brakes had made almost a full recovery. Fast deceleration did not result

photos by Al Kidd



COLIN CREITZ



The engine modifications include a 1.54 to 1 rocker arm ratio and high-lift cam, improved distributor spark control and sparkplugs, a new 4-barrel carburetor with an integral thermostatic choke, larger passages and ports for better breathing, and a maximum compression ratio of 9.0 to 1. The result is a more responsive and easily started powerplant developing up to 225 hp

in excessive nose-down, to our pleasure.

Roadability: No matter what car you drive, and what you know it will do, don't argue with a Mercury owner when it comes to roadability. In '55, MT rated Mercury as one of the 2 best road cars on the market, and the new Merc easily equals previous models. This, above all, is the best foot that Mercury would have put forward had there been a '55 Mexican race. On very high-speed curves, the Mercury—to borrow a phrase from sports car advocates—feels as tho it's on rails. The car sits very flat in turns and, if you push it a little harder than normal, the worst you'll get is a 4-wheel drift that sets in very slowly and seems like it belongs. Excellent steering (with some built-in understeer) aids here too, because the Merc goes just where you point it, degree of drift notwithstanding. One enthused MT tester felt that the car would simply slide off the road before it would ever consider rolling. Mercury likes varied road surfaces and straight fast roads just as well as curves. There is no apparent wind wander or airborne feeling at any time. Washboard roads (straight or curving) don't cause wheel hop or any noticeable pitch or wander. In short—we haven't found a better road car in '56.

Ride: Superlative roadability considered, one might expect ride to suffer to the uncomfortable stage. Not so. Mercury engineers have actually softened the ride slightly this year without any loss of handling qualities. But don't expect the softest ride in the market. You will feel bumps and obstructions right down to tar strips along the road, but this won't result in any marked discomfort unless you're real finicky. Actually you *bear* the irregularities in the road as much as feel them, and this fact might detract somewhat from Mercury's better-than-average ride.

WHAT THE CAR IS LIKE TO LIVE WITH

Riding in the front seat: From a sheer

seating standpoint, the front-seat Mercury passenger will be as comfortable as any. He'll enjoy plenty of room in all directions for stretching out and general relaxation. Mercury's heat and vent system is fine for providing good comfort for passenger as well as driver. Our test car did show these discomforts, tho: Front wind vent was apparently inadequately sealed, which resulted in drafts and more-than-average wind noise when it was closed. Since our '55 test car (with no difference in basic design of the vent) didn't have this trouble, it's safe to assume that it isn't chronic. In addition, Mercomatic transmission in our test car was not the smoothest, and some undue lurch was present in normal upshifts.

Riding in the rear seat: Buyers of 2-door hardtops shouldn't expect rear-seat roominess, but Mercury is surprisingly good in this respect. Much more than "emergency" passenger space, the rear seat is fairly comfortable despite a modest amount of legroom. In addition, rear-seat passengers will enjoy courtesy light mounted above armrest in the seatback. Armrest itself, aside from its normal comfort function, also aids in keeping rear-seat passengers from sliding when cornering gets hot and heavy.

ECONOMY AND EASE OF MAINTENANCE

Fuel economy: Even with their increased power, Mercury owners will enjoy just about the same fuel economy that they had last year, thanks to higher compression ratio and improved carburetion. At slower, steady speeds there's slight improvement. (See chart for comparison, and remember that the '55 test car didn't have Mercury's most powerful engine.) Altho not primarily intended as an economy car, the new Merc won't give you headaches when you tote up the fuel bill.

Is the car put together well? Exterior-wise, Mercury will easily match up to other cars in its class on panel and trim fits and

quality. Paint showed only slight "orange peel" (small ripples caused by—according to Mercury manufacturing—spray too dry, not enough paint in spray, cold paint and/or thickness or viscosity of paint). We didn't find any obvious file marks or indications of poor workmanship. Inside the car, workmanship was excellent. Upholstery, headlining, and trim seemed to indicate that Mercury had outdone itself for such an early-production model. Women and men alike will appreciate the appearance and quality of Merc interiors if all are like this. By the way, Mercury quality hasn't always been up to its present standard. Whether or not MT is responsible, we're glad to see this real improvement over the last few years.

How did it hold up? Very well, with no serious malfunctions even after an unusually hard test, much of it in very bad weather. Some minor rattles developed. The only item to go bad was the warning light for the emergency brake, which apparently lost its memory and continued to shine after the brake was released. This was made less bearable by the fact that the red glass cap over it came loose and the white light from the bulb shone in the driver's eyes.

Servicing: No problems that aren't true of other large V8s. Merc's engine compartment is fairly roomy and major components are accessible enough. Exhaust manifolds are higher than most and when they're hot you'll have to be alert even in everyday servicing. If you go for the power options plan on working around their components. Biggest boon to the do-it-yourselfers is the optional Multi-Luber. One push a day on the button takes care of all front end chassis lubrication, and even after it pays for itself you should still be saving money on lube jobs circumvented in this handy way. Maintenance costs on the Mercury will easily be in keeping with its initial middle-of-the-road price.

—Al Kidd

P E R F O R M A N C E

'56

(225-bhp engine)

ACCELERATION From Standing Start
0-30 mph 4.0 0-60 mph 11.0
Quarter-mile 18.2 and 78 mph

Passing Speeds
30-50 mph 4.9 50-80 mph 12.8

TOP SPEED Fastest run 104.7 Slowest 100.6
Average of 4 runs 102.6

FUEL CONSUMPTION Used Mobilgas Special
Steady Speeds
20.3 mpg @ 30 19.0 mpg @ 45
16.4 mpg @ 60 13.8 mpg @ 75

Stop-and-Go Driving
12.4 mpg over measured course
14.3 mpg tank average for 599 miles

STOPPING DISTANCE 150 feet from 60 mph

BRAKE FADE Slight on 6th and 7th stops from 60
Complete after 8th stop
Partial recovery 5 minutes

SPEEDOMETER ERROR Read 32 at true 30, 50 at 45
66 at 60, and 81 at 75

REAR-WHEEL HORSEPOWER Clayton chassis dynamometer showed:
67 road hp @ 2000 rpm and 33 mph
86 road hp @ 2500 rpm and 60 mph
100 road hp (max.) @ 3000 rpm, 96 mph

'55

(188-bhp engine)

From Standing Start
0-30 mph 4.2 0-60 mph 11.4
Quarter-mile 18.0 and 78 mph

Passing Speeds
30-50 mph 5.3 50-80 mph 13.8

Fastest run 107.9 Slowest 103.8
Average of 4 runs 105.3

Used Mobilgas Regular
Steady Speeds
20.6 mpg @ 30 19.9 mpg @ 45
16.2 mpg @ 60 13.4 mpg @ 75

Stop-and-Go Driving
12.7 mpg over measured course
14.7 mpg tank average for 1090 miles

153 feet from 60 mph

Read 32 at true 30, 49 at 45,
65 at 60, and 81 at 75

70 road hp @ 1700 rpm and 27 mph
95 road hp @ 2500 rpm and 64 mph
100 road hp (max.) @ 3100 rpm, 82 mph

S P E C I F I C A T I O N S

ENGINE: Ohv V8. Bore 3.80 in. Stroke 3.44 in. Stroke/bore ratio .905:1. Compression ratio 9.1:1. Displacement 312 cu. in. Advertised bhp 225 @ 4600 rpm. Bhp per cu. in. 0.721. Piston travel @ max. bhp 2637 ft. per min. Max. bmep 156.6 psi. Max. torque 324 lbs.-ft. @ 2600 rpm.

TRANSMISSION: Standard transmission is 3-speed synchromesh with helical gears. Automatic transmission in Mercomatic, 3-element torque converter with planetary gears. Over-drive transmission is standard shift with planetary gearset.

RATIOS: Drive 1.47 x converter ratio and torque converter only (2.40 at full throttle thru detent, x torque converter); Low 2.40 x converter ratio; Reverse 2.00 x converter ratio. Maximum converter ratio at stall 2.1:1 @ 1610-1810 rpm.

REAR-AXLE RATIOS: Conventional 3.71, optional 4.09; Mercomatic 3.15, optional 3.54; Over-drive 4.09, optional 3.73.

STEERING: Turning diameter 43.2 ft. Number

DIMENSIONS

A FRONT OVERHANG 34.4
B WHEELBASE 119
C REAR OVERHANG 53
D OVERALL HEIGHT 60.5
E MINIMUM GROUND CLEARANCE 6.6
(at frame siderail)
F FRONT LEGROOM 43.7

of turns lock to lock 5.0. Overall ratio: 25.4 to 1. TYPE: Mechanical, worm and 2-tooth roller with needle bearing. Power, Bendix linkage booster.

WEIGHT: Test car weight (with gas, oil, and water) 4110 lbs. Test car weight/bhp ratio 18.3:1.

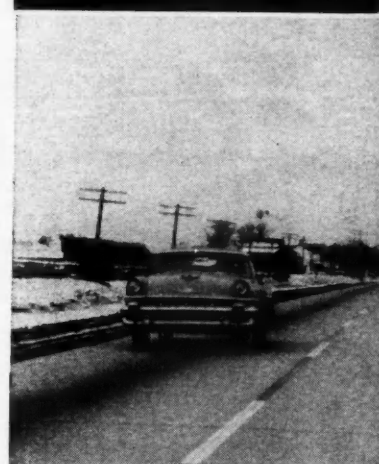
TIRES: 7.10 x 15 tubeless.

PRICES: (Including suggested retail price at main factory, federal tax, and delivery and handling charges, but not freight.) CUSTOM 2-door sedans \$2214 and \$2311, 4-door sedan \$2370, 2-door hardtop \$2445, 4-door station wagon \$2682. MONTEREY 4-door sedans \$2515 and \$2612, 2-door hardtop \$2590, 4-door, 3-seat station wagon \$2937. MONTCLAIR 2-door hardtop \$2725, 4-door hardtop \$2746, convertible \$2860.

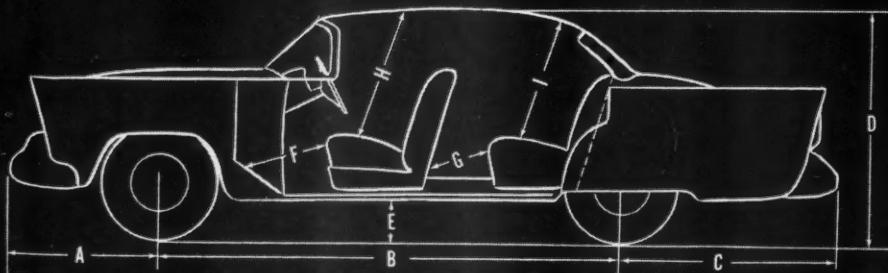
ACCESSORIES: Mercomatic \$175, overdrive \$102, power brakes \$35, power steering \$75, power windows \$90, power seat \$60, radio \$90, heater \$75, air conditioning \$475, safety package (belts, padded dash, visors) \$28.

G REAR LEGROOM 48.6
H FRONT HEADROOM 33.8
I REAR HEADROOM 32.5
J OVERALL LENGTH 206.4
K OVERALL WIDTH 75.4
L FRONT SHOULDER ROOM 57.4
M REAR SHOULDER ROOM 57.5
N TRUNK CAPACITY N/A

MT ROAD TEST



'56 MERCURY
Montclair 2-door hardtop
with Mercomatic



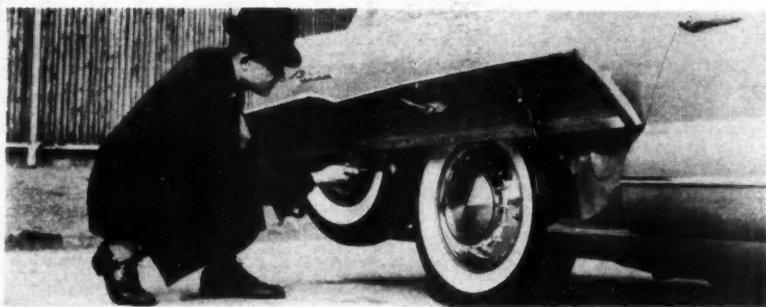
WESTWARD HO — to the suburbs!



The "Plainsman," Chrysler Corp.'s 8-passenger dream car, plots trends in '57 wagon design. A metallic beige finish complements the white-fabric-padded metal roof, both stepped and cantilevered, and having air intakes



All controls and gauges are conveniently located behind the steering wheel, a '56 Plymouth extra item. Natural calfskin upholstery and natural leather make up the interior trim. Door handles are sliding type

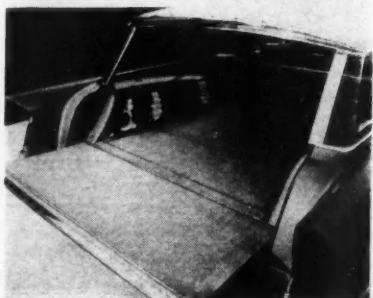
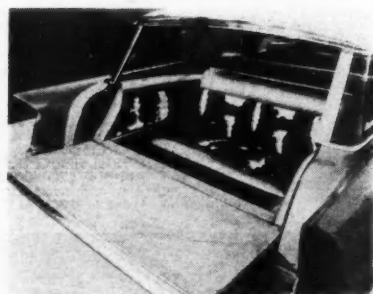


The ingenious mechanical devices are almost all practical; the spare tire is handy and a spacesaver. A crank lowers the wheel onto the ground, returns the flat tire to out-of-the-way storage behind the panel

An electrically operated rear seat and tailgate will be a boon to most women. Note that there are no visible hinges, braces, or cables. Steps slide out automatically. The novel rearward-facing back seat folds flush into the floor to allow more loading room



This 60-inch-high wagon could easily be placed in production, if public demand warrants tooling for a run. Look for some Plainsman features on '57 models. How about a sliding skylight to make it a "convertible wagon"?



'HANDSOME IS AS HANDSOME DOES'



MT
SURVEY:
THE RIGHT
BODY CHOICE
FOR YOU

*These days it can be hard to see around
that flame-colored job to the body type that
might have been custom built for you*

H. W. FOWLER once said, "The obvious is better than the obvious avoidance of it." Apparently this is a maxim that too few persons heed in their search for a particular body type. Why else then would a family man with 4 children ask, "Should I consider a station wagon for my next car instead of a small foreign car or a 2-door sedan?" Or a bachelor in Montana ask, "Would a hardtop be better for

resale than a convertible?" And a son who takes his older parents on long rides have any cause to wonder if a 4-door sedan would be best for them?

Unusual circumstances? Not at all. Anyone and everyone must consider at one time or another what body style is his best personal investment, whether for utility, resale value, convenience, looks, pride of ownership, or any combination of these. There are advan-

tages and disadvantages to every body type. No one of them is right for all.

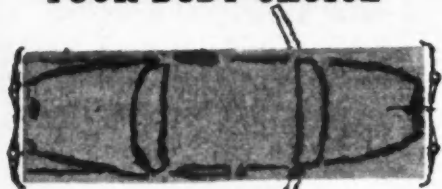
In the next 8 pages, you'll find at least one of the existing body types you are probably contemplating as your next car. We won't talk about makes, except that the small foreign cars are limited in number. After you decide what type is best for you, it becomes a relatively simple matter to select the make of car you want — or does it?

how the body types compare

	1ST COST	RESALE VALUE	STYLE	LOAD CARRYING	SAFETY	DURABILITY
2-DOOR SEDAN	😊	😊	😊 - 😞	😊	😊	😊
UTILITY SEDAN	😊	😊	😊	😊	😊	😊
4-DOOR SEDAN	😊	😊	😊	😊	😊	😊
2-DOOR HARDTOP	😊	😊	😊	😊	😊	😊 - 😞
4-DOOR HARDTOP	😊	😊	😊	😊	😊	😊 - 😞
CONVERTIBLE	😊	😊	😊	😊	😊	😊
SPORTS CAR	😊 - 😞	😊	😊	😊	😊	😊
SMALL IMPORTED CAR	😊	😊 - 😞	😊 - 😞	😊	😊 - 😞	😊
UTILITY WAGON	😊	😊	😊	😊	😊	😊
LUXURY WAGON	😊	😊	😊	😊 - 😞	😊	😊
PICKUP	😊	😊 - 😞	😊 - 😞	😊	😊	😊

Illustrated by John B. Miller

YOUR BODY CHOICE



LESS DOORS MEAN LESS COST: THE 2-DOOR AND UTILITY SEDAN

THE PRACTICAL 2-door sedan, like Dodge with its dependability, for many years put so much emphasis on this side of its nature that new-car buyers tended to think that was all there was to it. Now abandoned by most makes in favor of the glamorous 2-door hardtop, the 2-door sedan can be had only in Ford and Mercury, Studebaker, and the 4 lower-priced General Motors cars. To MT's way of thinking, this is most unfortunate, especially since at least 2 of these makes will probably discontinue production of 2-doors with their '57 announcements.

The 1st of our objections to this death sentence may surprise you: we like the looks of 2-doors. Why? Because they have long, unbroken lines, with few distractions. Because they make the most of single- or 2-tone color schemes. Because they recapture some of the basic simplicity of the classic era.

You may not agree with our thoughts on styling, but there can be little argument about the appealing price of a 2-door when compared with other similarly trimmed models. There can be little argument about its safety, with a sturdy centerpost, and a rear compartment from which no one can fall except in the most bizarre of accidents. There can be little argument that, in lines which also offer a 2-door hardtop, the standard 2-door has more room in the rear seat.

But the story of the 2-door is not only that of the misunderstood, hard-working elder sister. Like many such people it has a number of exasperating minor faults. Climbing out of its back seat, whether this not inconsiderable feat is executed by a child or an adult, annoys nearly everyone in the car and can even be

dangerous. The doors are too big and heavy, banging other cars and getting stuck in soft curbs. Such tight spots as supermarket parking lots often see people in 2-door cars who can't get out at all after parking. Loading some delicate object into the rear seat is no fun, and the folding front seatbacks have an unhealthy action in a bad crash. Many a shrewd buyer has discovered, to his sorrow, that his economical 2-door has an unusually expensive rear-quarter panel.

Two tricks are easy with a 2-door that are next to impossible with other models. One is getting a stripped model, or one equipped with only the accessories you want. The other is jumping a price class. But the time-honored rule of "Don't buy the most expensive house in the tract, buy the cheapest" doesn't apply here. The you may have many long years of enjoyment from your austere equipped Buick or Mercury, buyers for its 2nd childhood may be notably scattered.

Don't be misled into thinking that, because many 2-doors are severely trimmed, they can't also be had in the latest '56 mode. Every make of 2-door can be bought with dazzling upholstery and accessories.

The utility sedan, today's version of the business coupe, is another story in some respects. With its seatless rear compartment lined like a trunk, it offers huge interior space to salesmen and others with bulky loads composed of small units. It is the acknowledged price leader in every line, with a good \$100 margin over the comparable 2-door sedan. And for those with a taste for sleeping in their cars, the huge rear compartment (with a small amount of doctoring that varies in different makes) gives you all the bed space of a wagon.

THE MOST CAR FOR THE MOST PEOPLE: THE 4-DOOR SEDAN

ONE REASON, above all others, is a reliable guide to the continuing popularity of the 4-door sedan. It is simply that every U. S. maker, however narrow or broad the remainder of his offerings, still builds at least one sedan. The same applies to the 2-door hardtop, unknown before 1949 and, to date, the body type most responsible for alienating Mr. and Mrs. Buyer's affections.

Has the aging sedan lost the desirability of its youth? Hardly. Its colors and variety of finishes are almost impossible to count, and the long-tailed look has taken the curse off its somewhat broken lines. But the hardtop is undeniably handsomer when you just glance at it. And too many buyers make up their minds in that 1st glance.

So it's our sober duty to pull you down to earth. How often do you use your back seat? If it's often *and* the rear passengers are adults (especially old people), nothing can substitute for a 4-door car. The confusion that can result in a 2-door (hardtop or sedan) when someone tries to leave is ruled out for good. Packages as well as people are easier to manage with 2 additional doors.

When are these doors not an advantage? When children ride in the back. (That's where they belong, especially if your car has no safety belts. The so-called "death seat"—the right front one—often earns its name from the small, lightweight person who was riding there.) No door at all is still safer than a rear one, no matter how efficient your inside door locks or your '56 safety doorlatches. You have to be the judge here. If your children are rule-

followers and always lock the door behind them, you have less need for the safety of a 2-door. If they are very young or forgetful, a 4-door isn't the best choice.

Some advantages of the 4-door are easily lost in the glamour of the showroom floor. It gives you more useful room inside than any other type except a wagon, and it may give you more than that does, depending on your needs. The back seat is almost always more comfortable in a 4-door than in any other type. It's often deeper than that of a 2-door hardtop. There's usually more legroom. Ventilation can be controlled better, and you may even keep drier than in some hardtops where the window-sealing problem hasn't been licked. The rear seat is at a more comfortable height than the folding one in most wagons, and the back gives more support. A sedan is free from the rattles, sloshing of gasoline in the tank, wintry drafts and other minor annoyances that can distress the too impulsive wagon buyer.

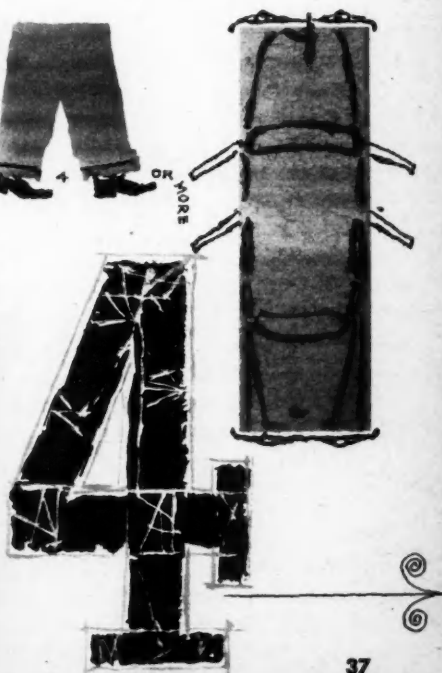
Rumor has it that the 4-door sedan will vanish almost at once from the new-car market, and that the 4-door hardtop will take its place. Perhaps. There's no doubt that the 4-door hardtop is better looking. But that offensive

centerpost, to whose removal so much time and effort have been devoted, is a feature that with the addition of a full rollbar would give your sedan nearly the same safety as that of race-equipped stock cars. Thru extensive redesign, the 4-door hardtop of the future could equal the safety of today's sedan, but a floor-to-beltline post, no matter how sturdy, can't do the job alone.

Even if the centerpost should disappear for good, it is doubtful that your 4-door of today would suffer much in resale value. In any event it will fare better than a 2-door sedan, tho you will pay more for it in the 1st place.

The 4-door is hard to beat as a travel car. Its luxury, in terms of passenger room, comfortable seating, and quiet, can pay off on long trips. The major part of your luggage is hidden in the trunk, not exposed to view and loose where it can fly forward in a quick stop. The 4-door is far ahead of the 2-door for travel, if the people in the back seat ever want to get out. Its trunk, tho, may not have all the space of a 2-door sedan or hardtop.

Visibility is about equal, in the end, with other models. Rear-seat passengers aren't generally too shut in at the sides, but the centerpost interferes with scenery when they look forward.



YOUR BODY CHOICE



POSTWAR PHENOMENON: THE HARDTOP

BUICK AND CHRYSLER apparently will never resolve the question of which one deserves the credit for the 1st hardtop. Kaiser's beautiful 4-door Virginian and the original Frazer Manhattan, also without a centerpost, may deserve the credit. We will commit ourselves to the extent that all were '49 models, and no further.

Whoever actually appeared with the 1st one, the hardtop soon became such a favorite that demand far outstripped that for the perennial favorite 4-door sedan in many lines. Buick, which produced its millionth hardtop last year, celebrated by abandoning conventional sedans completely in its '56 Century line.

The inbuilt good looks of the hardtop have been responsible for much of this demand, and ballyhoo has done the rest. And the object of all this excitement is not without its workaday side. The models with washable headliners and upholstery invariably wear longer and keep their youth more gracefully than fabric-trimmed cars. They offer the advantages of the now-defunct club coupe to single people or couples: a compact-appearing personal car without a sedan's bulk, but with a rear seat when needed. With the occasional back-seat riders, conversation is much easier than in a roomier car, and small children — especially solitary ones — also enjoy not being so far from their parents when riding. There's another seldom-recognized use for a 2-door hardtop: A small baby can ride on the rear seat in a car bed with little danger of tumbling off onto the floor (an advantage due to the fact that there really isn't much room!). A soothing hand can reach back with ease to quiet those distracting yowls, and a bottle can even be dispensed on smooth roads.

Inherent lack of stiffness, a fault familiar to convertible owners for many years past, continues to plague hardtop devotees despite the cars' heavier frames and ever sturdier bracing below the beltline. The unhappy results of this tendency to wobble are rattles and

squeaks, which, of course, increase with age. The same comparative vertical and lateral weakness makes a hardtop a poor choice if you plan to roll over.

If there are only 2 (or 1) of you, a 2-door hardtop makes a good car for trips. The nearness of the back seat makes it useful for odds and ends (which you can reach with ease), and most of your luggage will repose, safely out of sight and under lock and key, in what is usually a larger trunk than on any other body choice in a given line. The missing centerpost gives you a better view of the scenery. (The rear seat passenger may feel shut in by the heavy roof support.) the car may not be measurably breezier on a hot day than a sedan, but it seems that way.

Hardtops are at the height of their popularity. Some makes are actually selling very few other models. Accordingly, they come high, not so much in their stripped list prices as in the loaded form in which you usually see them. It's hard to get one without a lot of accessories, and if you could, it would be a foolish investment (buyers of 2nd-hand hardtops want them loaded, just as most of their original buyers do). The happy side of this picture is that there is an active resale market for them, making your next trade a healthy proposition from the budget's standpoint.

The same points that make the hardtop's back seat just the thing for a baby can make it torture for adults. In addition to awkwardness of getting in and out, plus restricted footroom, the roofline is often extra low for style; be sure your passengers test it.

That newest of the new, the 4-door hardtop, is another story. It has all the advantages of a 4-door sedan except that it's not so tight. In other words, the absence of a centerpost means the presence of more rattles, more chance for air and water leaks around the windows, and more danger in the event of turning turtle. It's not so tight in another way, either, for it costs more when you buy it and brings more when you sell it.

FUN IN THE SUN: THE CONVERTIBLE

IT'S NEARLY 20 YEARS since the sports roadster finally bowed out in favor of the convertible. Tho the more practical hardtop — designed intentionally to copy the convertible's looks — has dealt it a hard blow saleswise, it still doesn't come near it for sheer glamour. When that top goes down and the sun pours in and you're right in the middle of all the scenery, it's a hard man who thinks of resale value.

Yet, since it's our function to be analytical about cars, we *must* think about it, and about other faults as well. In line with its exalted social position, a convertible costs a lot: it will be either the top-priced car in the line, or close to it. If you maintain it well — an expensive proposition itself in both time and money — and you live in a well-to-do or resort area, you may profit when you trade it. (The spring and early summer, if you live in more ordinary places, will be almost your only time to make a good deal.)

There's a lot of worry about what can happen to you if you turn over in

a convertible, and with good reason. When Hudson abandoned its broad-beamed, unit-body-and-frame convertible with the rather homely windshield header bar, the safest conventional version disappeared. Seatbelts don't help much without a steel roof, for it's surprisingly hard to keep your head below the beltline during a flip. Children can get excited, stand up or lean out, and are very likely to be thrown from the moving car.

Now let's look sternly at the fun of riding in a convertible. On the way to a picnic or the beach, your wife (or date) and all your friends will have a fine time. If your destination is a formal dinner, she may react differently, for with the top down, her hair gets mussed. If the weather is bad and you both agree that the top belongs up, even the most powerful heater may have hard work keeping your lady (and you) warm.

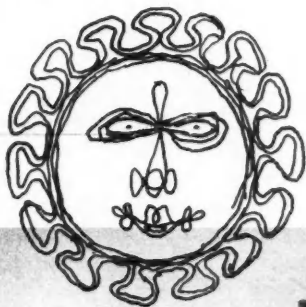
The 360-degree vision when the top is down is matched by the poorest vision in any body type when it's up (unless you buy an optional wrap-around rear window). You'll want to put the top up when you park, so that you can sit on cool seats when you return. The alternate solution is to buy a tonneau cover (good looking, but tiresome to use, and not cheap). When the top is up you have, as far as space

goes, a less roomy 2-door hardtop. The reason for this is the folding top mechanism, which requires some 6 inches on each side of the back seat and a considerable well behind it. This well can be used for packages when the top is up; it takes its space from the trunk, which is impractical for traveling. The best compromise is Ford's, in which the top carrier extends into the trunk but is movable when not in use. That trunk space is important, for if your valuables are locked inside the car, a common pocket knife reveals them.

This business of maintenance, quite aside from having to put the top constantly up and down, can get involved. Mechanics have spent countless hours vainly searching for rattles and squeaks in these bodies. The top may last for 3 years with the best of care (including frequent washings). Interiors, tho almost always of better quality than in any other car in the line, take a real beating from the weather. Convertibles need garages more than other cars do.

But enough of this negative approach! When we sold our last one, we said, "We'll probably never buy another, but we'll never have so much fun again!" And besides, you can always carry supremely awkward objects (with your top down) that more conservative friends could never manage in their sedans.

What about the future of convertibles? That *ne plus ultra* of classic times, the 4-door convertible, may reappear in a prestige car in the next model year. But the acknowledged evolution of the convertible is away from the "rag top" and toward some version of the folding, roll-back, or sliding metal roof. You won't have long to wait, either; but it's not going to be exactly in the low-priced field.



YOUR BODY CHOICE



FOR SHEER JOY OF LIVING: THE SPORTS CAR

SOME PEOPLE are home in their steam-heated apartments in 10 minutes, and others travel an hour and a half to a lonely but beautiful country hilltop . . . Some have 3 practical sets of slacks and jackets, any of which goes well with another, and others blow their whole clothing allowance on one cashmere jacket that goes with nothing and looks like a million bucks . . . Some people have sensible sedans, and others treat themselves to sports cars . . .

If you've been for a drive in any sports car, regardless of its price, you know what fun they can be. The sun and the wind are there, and you always have a feeling of going fast, whether you are or not. You steel yourself for a curve (if you're used to some of the softer, slower steering Detroit cars), and next thing you know you've flicked your wrist and are thru it, leaving bigger cars behind. There's never a fear that the car is too big for its brakes. You're near to the road and to your controls, and you're recapturing a pleasant sensation: you're **driving** again!

Now hold on a minute. Do you lose your enthusi-

asms, or do they stick? Do you like the same sports you did 2 years ago? Or does your home workshop equipment gather cobwebs after a few months? What we're getting at is that a sports car is not for the fickle; it's jealous and demands constant coddling in return for the fun it can provide in such great measure. Viz.: Most sports cars can give excellent gas mileage if you tinker with them, tune them up frequently, have them "decoked" when they need it, and never, never let anything go the way many people have found they can with "Detroit iron." This obviously demands a sustained love of your machinery and its outer coat, and if that isn't a part of your personality, let's face it.

Do sports cars have performance? Objectively, the higher-priced ones do, in full measure. With most of the lower-priced ones, this performance is comparative. In them, you won't leave '56 domestic cars behind in the city; on sharply curving roads you almost certainly will, because of the sports cars' superior roadability. Because you'll have an excellent power/weight ratio, you'll get remarkable results considering the size of your engine. And a sports car always feels as tho it had better performance than a softly upholstered closed car, even if the 2 accelerate much the same.

Are sports cars economical? No, like all luxuries, they cost more, point for point. What you save in gas mileage may go to pay for frequent adjustments, for hard-to-get parts, even in finding a place that can do the work (beware metric sizes) if you're not in a metropolitan area. Resale value, except for current and regional favorites, isn't high.

Are sports cars comfortable? The impression when you 1st "try one on" is that they're fantastically so. The bucket seats hold you firmly in place, the wheel sits right in your lap, the instruments are designed to be read. With constant companionship, the picture changes somewhat. The ride is stiff. The noise level means discomfort on lengthy drives. Lack of room to twist about and change position is annoying, and at times, space for another couple would be welcome. Some sports cars get too hot under the cowl in the summer. All of them with canvas tops, excepting only the true convertibles with roll-up windows, will leak, some moderately, some badly. (Put the top up and down **completely** on your preference before you buy.) Visibility is poor with the top up. The jaunty lines mean severely limited carrying space, especially under lock.

Handy as they are in heavy traffic and easy as they are to park, there is the very real danger of their not being seen. Since all sports cars are engineered to stay out of trouble, this is doubly bad. And if you get hit, you are generally more vulnerable than in a big car.

Do you think we're ag'in 'em? We're for them where they belong: as a 2nd car or as an only car for a single person who laughs at minor discomforts. There's nothing else on the market that can give you more hours of sheer delight from just driving to work.

TINY AND TEMPTING: THE SMALL IMPORTED CAR

THE 1ST BLUSH having vanished from the face of the market for small, non-sports-type foreign cars, it is now possible to study them more clearly than ever before. Basically, these attractive little cars should appeal to those buyers interested in economy. But this alone does not account for their success, and particularly for that of their outstanding representative, Volkswagen. As for it, engineering "goodies" and its resulting semi-sports, fun-to-drive feel are at least as important, and so is a superlative finish.

If one of these tiny gems has attracted you, the 1st step is to determine whether it is too rare for your needs. If, like some of us at MT, you are guided more by your emotions than your brain when it comes to cars, you won't listen to sober advice anyway. Therefore, we'll confine this to the better-known versions; go ahead, if you must, and have your fun with that Tatrapiplan. For practicality, others should limit their choice to the aforementioned VW, along with the DKW, Simca, Renault, Citroen, British Fords, Hillman and Austin. If they are certain they'll never leave the town where one of the few U. S. dealers for a rarer make is located, they might go ahead with that one.

The cars listed, thru no particular fault of their own, bear a relationship to our bigger domestic cars which differs from that when they 1st began to arrive in the U. S. about 8 years ago. While they have continued to make modest improvements in their innards and in their outward appearance (resulting, by now, in styles not unlike U. S. cars of 1949), our cars have undergone big changes. As an example, most home makes have doubled their engine output, and our streets, much less our highways and turnpikes, are not the same spots they used to be. The small imports are less able to keep up with larger cars in traffic, except that in being smaller they can make up time by getting thru tighter spots. And on curving, narrow byways, many of the little ones can make up in roadability what they lack in heft.

If you want one for economy's sake,

the prerequisite (except for just a few) is that resale value must not mean much to you; in short, the way to buy one of these at this point in history is to plan to keep it till it falls to pieces. Only in this way will your minute expenses for gas, oil and tires begin to mean "a penny earned." You must be a conservative in another way, too, to get the most from your small foreigner. The driver who pounds his car, accelerates and brakes for all it is worth, doesn't lube it regularly or tune it up when necessary, belongs with our generally tougher Detroit product. We're not saying you have to baby an imported car. Just give it what the manual calls for, and treat it with respect. It will pay you back in real money in the bank.

Assess your needs in these ways too: Do you flail around, demanding lots of space wherever you are? If so, don't cram yourself into a too-small car (the various makes in this group vary so much in this respect that one shouldn't be judged by another). Are you inclined to be nervous, worrying about

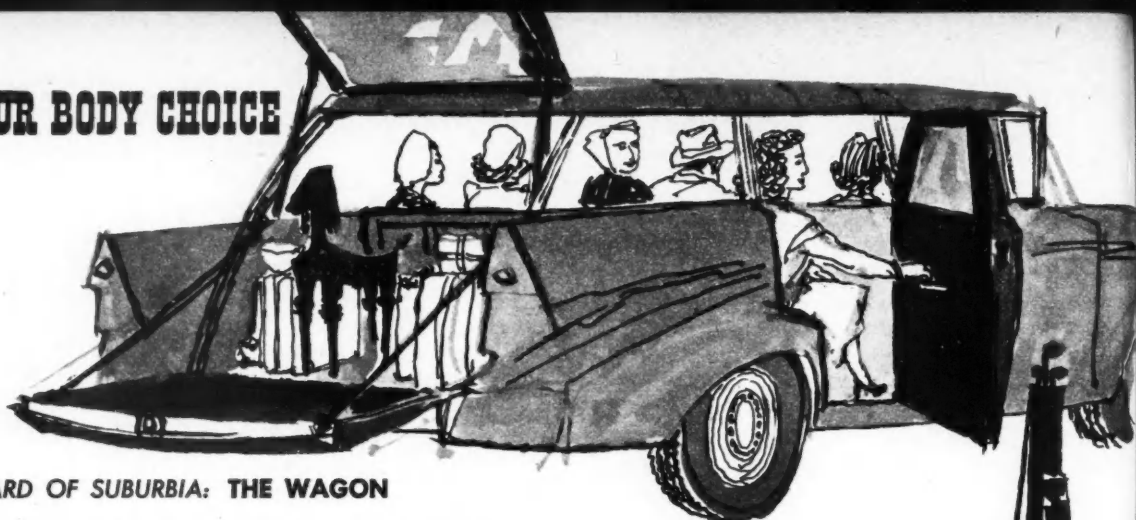
other drivers? If this is so, even the light, quick handling of a foreign car won't make up to you for that sitting-duck feel (compounded by the lack of power). Do you hate to hunt for a parking place? Then the foreign car will win your heart on the 1st drive. Do noise and vibration annoy you? Try the foreign car carefully before deciding; Europeans haven't yet demanded quiet small cars. Do you like to shift, steer, and generally feel intimately connected with your car's mechanical parts? One of these is for you. Do you demand a cloud-soft ride? Stay away! Do you make long trips with many passengers? These aren't your dish.

So what do they really offer? It's a sort of return to the basic virtues of transportation. They'll get you from point to point, without frills and at a minimum of trip expense. They don't have any servicing problems with their automatic gadgets for the simple reason that they have no (or very few) automatic gadgets. As for specific body types within a small-car line, the advice under the other 7 headings applies.



saved

YOUR BODY CHOICE



WIZARD OF SUBURBIA: THE WAGON

IF IT WERE NOT for the wagon's considerably higher price, it would have outstripped even the hardtop's spectacular rise in popularity by now. The contemporary phase of the wagon's existence actually began in 1949 with the coming of the all-metal, flat-floored Plymouth Suburban, and it has entranced an ever-widening field with offerings which now range from the bare and utilitarian to just about the fanciest cars made.

Like any new or rejuvenated product, the wagon has sold to a lot of people for whom it doesn't make much sense. Perhaps the biggest reason for this is that there is seldom available a wagon demonstrator, and prospective buyers can only measure and admire under the impressive conditions of a showroom floor.

For a large family particularly, and indeed for any family that likes to stretch out, a wagon has no equal. If there are children, apparent seating area is not the only benefit. An 8- or 9-passenger wagon is by no means necessary to make possible napping in the rear, playing with the dog (without disturbing the driver), or just horsing around without getting into trouble.

If your job demands tool-carrying space without the use of a truck, or if you have been driving a family sedan and a truck, this single model may be your answer. Tools, tho — and this goes for anything else you may be carrying — will be exposed to public view and a constant temptation to thieves. (Ford's new Parklane has a tonneau cover that should soon appear on other makes, or could easily be made at home.) In planning the purchase of such a double-duty car, study upholstery and floor coverings with care. Especially in the more attractive models, color and rich textures may have taken the place of the sturdy fabrics you'll need. Few wagons are as enormous as they look. If your loads are to be bulky, be sure they'll fit.

Now a look at the passenger-carrying aspects. Children will enjoy a better view outside (lower window sills) but will get colder. As in a modern house with large glass areas, the heat dissipates; besides, the actual space is much larger. The ride will probably be a little stiffer (heavier springs, possibly 6-ply tires) and measurably noisier (less insulation from rear wheels and axle). Rattles don't occur as often as they did in wag-



ons, but they do appear with discouraging frequency.

While actual load-carrying space with a full complement of passengers may seem no larger than in a sedan (without blocking the driver's rear view), the roof lends itself to a baggage carrier, especially for vacations. This brings us to our personally favorite use for our own wagon, which is sleeping in it whenever and wherever we happen to be at nightfall. The tailgate, by the way, makes a good kitchen table in the morning. If this sounds as tho it might appeal to you, there is no substitute whatsoever for forgetting your dignity and climbing inside, along with your fellow would-be campers, before buying. You'll want plenty of room for yourselves and your equipment, if you're to enjoy taking your house along with you.

As an investment, a wagon can repay you only if you'll use it sufficiently (many have paid for themselves in small businesses). To higher original cost, you'll have to add slightly higher costs of operation (it's heavier) and body repair; possibly higher insurance and license fees. Some wagons don't have the bigger brakes they need, so they wear faster. Resale value will offset some of this; a much-wanted wagon will retain a good percentage of its original value for several years.

Once you've decided you want a wagon, you may have a hard time picking which one. They vary sharply, even within one make, so check the pages on 2- and 4-door sedans for similar advantages and disadvantages. MT's Aug. '55 Station Wagon Buyers Guide is still helpful because of the lack of basic changes in '56.

LOW COST, HIGH UTILITY: THE PICKUP

IF YOU STILL THINK of a pickup as "just a truck," you owe it to yourself to investigate what has happened to this once-lowly, still-cheap workhorse.

As for its ties with the past, the usual pickup still rides hard all the time so that it can carry a hefty load when necessary; it is considerably noisier than today's passenger cars; and it carries its driver and 1 or 2 passengers proudly on high.

There's nothing whatsoever that can carry a bigger or heavier load (unless it's a larger truck). To be sure, this load is exposed to the weather if you don't cover it with a tarpaulin. It isn't theftproof in the slightest degree, and you'd better line the bed of your pickup before you load up if you're going to tote anything delicate.

If you do a lot of camping, you'll gain mobility with a higher-slung pickup. Add some of the extra-cost options, and you may compose a near-perfect

vehicle for your specialized needs. Consider equipping it with 4-wheel drive, for a veritable mountain goat of a car ("Driving Around," Jan. '56 MT). If hot performance is more your dish, try a supercharger; for a report on a McCulloch-equipped Chevrolet V8 Cameo, see page 47, this issue. Or you may yearn for a quick-on, quick-off "camper" body of Fiberglas or steel. Such an accessory, easy to sling from your garage rafters when not in use, can make a pickup top choice for versatility honors.

Now, what won't it do? It won't carry more than 3 people, except under the most dangerous conditions. The only safe spot for a child in a pickup is in the front seat, provided this seat has a seatbelt and, preferably, a shoulder harness. The happy kids you see riding in the rear of pickups are in a perilous spot in most accidents, and can fall out without any need for a crash. It

won't carry anyone in the cushioned comfort that we've grown accustomed to, and, unlike stiffer-riding passenger cars, it has no great abilities in the roadability or handling line. Indeed, an unloaded pickup can be a strain on the nerves as well as the muscles.

Unlike the wagon, the pickup is no stylishly casual vehicle for dress-up affairs. This situation underwent a slight change with the announcement last year of Chevrolet's Fiberglas-sided Cameo, and other makers are slowly slicking up their offerings. As it stands, the keeping-up-with-the-Joneses status of the pickup could be described as "O.K. if you have a real dreamboat, otherwise n.g."

The pickup's rugged virtues have captured a few buyers who were sorry before much time had passed, and anywhere but far from the big city, they have found it hard to recoup their investment. So—be sure!



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by Robert J. Gottlieb
Classic Car Editor

HERE'S A WONDERFUL LETTER received from E. R. Valentine, Pittsburgh, Pa., describing his car, which is unrecognized as a classic:

"May I mention a car overlooked and perhaps worthy of classic consideration—the 1929 Reo Flying Cloud 'Car-of-the-month.' Only one 3-toned car of that particular month was to be sold by each dealer in any large metropolitan area . . .

"We got ours in May '29—the color for that month was rose-terracotta with matching silk brocade upholstery and washed gold door and window knobs. It also has a ladies' gold compact, cigar lighter and trays, silk curtains (sides and rear), custom-tailored luggage to fit in the trunk, 6 wire wheels (6.50 x 18 with built-in balancing lugs). Side-mounted spares are covered with large chrome covers with rear-view mirrors. Dual-tone exhaust for town and country, the latter deep-throated and relieving muffler back pressure, controlled by button on steering column; massive hydraulic brakes, and double-acting shocks. Always noted for ruggedness and dependability, its performance and ride was something underestimated. 'Flying Cloud' suited the car aptly. [It was] fleet, responsive and smooth-riding with its long rear leaf springs set in large knees of rubber. Dressed in its fancy attire it seemed a challenge to the best in its heyday, such as Packards, Auburns, Cords, etc. We especially liked those 'certified-to-do-100' challenges. What a surprise they got! None ever left us and when speeds dropped to passing ranges (30-85) we promptly out-

classed most of them, and we were generally loaded to the hilt with 6 passengers and all gear. . . . Yes, I still have it stored in the garage—in mint condition and only 24,000 miles on it. It will still purr like a kitten or growl like a lion."

Bill (William R.) Gibson, of Newton Centre, Mass., is librarian of the Veteran Motor Car Club of America. A passion for accuracy has led him to examine "The Marmon Masterpiece" (April '55 MT):

"I want to tell you that I think you have done a splendid job in every respect. I'm especially glad that you gave Howard Marmon due credit, for most of the improvements were his ideas.

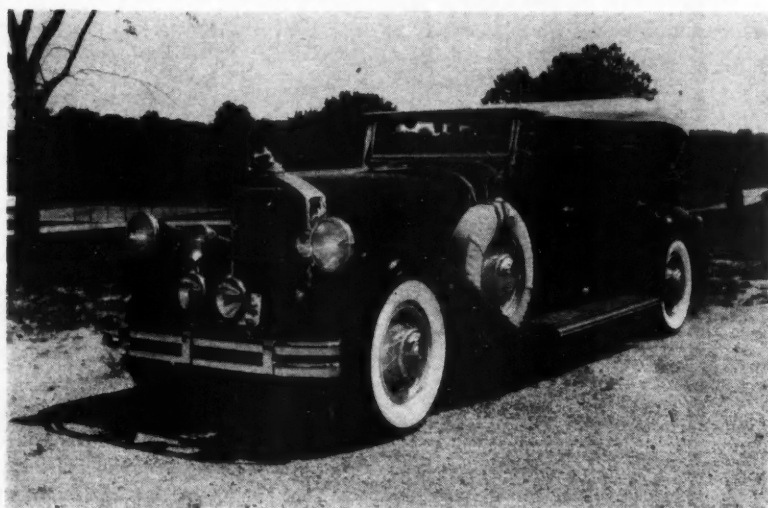
"Now to find a few faults. [Bill here mentions the Alexis de Sakhnoffsky 'club coupe' that we incorrectly labeled a Walter Teague design.] This is, or was, a one-of-a-kind car all right, and I have tried for a couple of years to trace this car—without success.

"A 1920 Marmon handbook I have states that the 1905 models, which appeared in late 1904, were the 1st production cars.

"I certainly question the 850 total production figure for the 16, and assume this information came from Ed Robinson, who told me some time ago that about that many cars were built. George N. Williams, last president of the Marmon Motor Car Co., estimated that number several years ago. I have since questioned him about this 'guess' and he admits that it was merely that. My '33 16 was owned by him when new. My estimate is about 450 16s from '31 to '33. Only 3 strictly custom-built cars have been verified, so I also doubt that 100 were made, unless special trim inside is included. There is a 7-passenger sedan in Pennsylvania with an all-leather interior which cost \$500 extra . . .

"Another '33 convertible coupe in Indianapolis has skirted fenders and 1936 Ford hood louvers, but it isn't what I'd call a custom-built car. The 2 Waterhouse touring cars in Massachusetts are the most interesting customs on this chassis . . .

"I'm sending a copy of your story to Mrs. Howard Marmon in New York, and I think she'll be pleased with your work."



Handsomely restored 1931 Pierce-Arrow phaeton is proud possession of Gene Berrick, of Danville, Ill.



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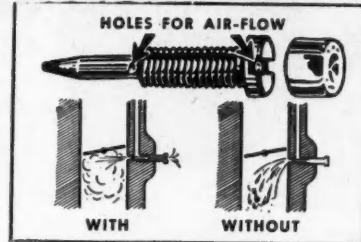
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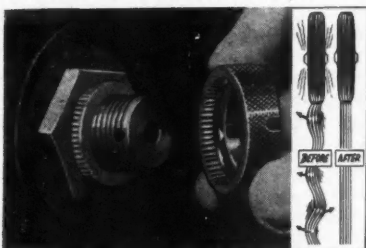
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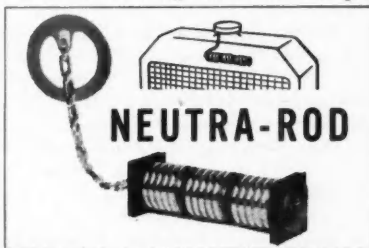
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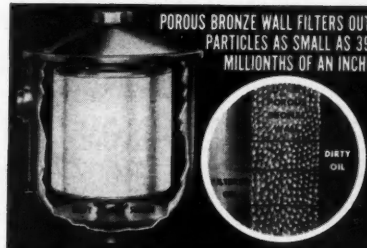
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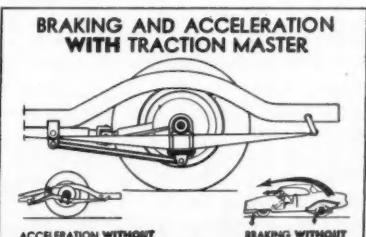
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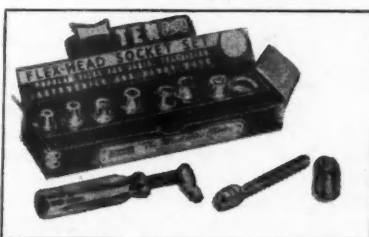
NEW RADIATOR PROTECTOR. Neutra-Rod cleans engine cooling system and keeps it clean. Magnesium-copper disc neutralizer removes rust and scale that solvents and flushing can't touch. Eliminates "hot spots" and overheating. Also **STOPS** electrolytic action that causes costly radiator damage. Easily installed in less than half a minute. Fits all cars. Only \$1.95. Item 5. Ppd.



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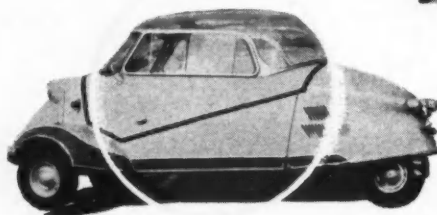
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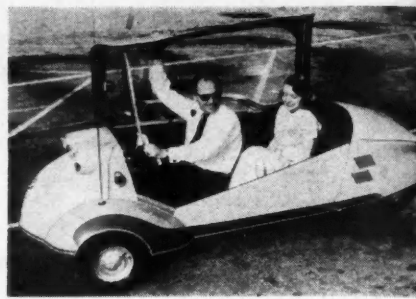
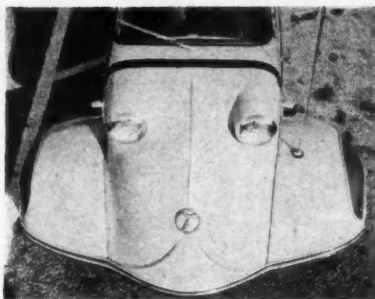


with
WALT WORON

IN MOST OF US there is an undeniable fascination for things mechanical. In a good percentage of us there is considerable interest in things of a diminutive nature. And in a large share of us there is a healthy respect for anything built by German craftsmen—as witness the astounding success of Volkswagen in this country. A study of all these points must have been made by the builders of the new tiny Messerschmitt KR-200, with the conclusion that what this country needs more than anything else is not a tax reduction, but thousands of tiny, 3-wheeled, closed scooters.

I know that some people will chide me for calling the Messerschmitt a "scooter," but I note that the factory and even many of the distributors in this country don't refer to it as a car. Instead, they say, "little vehicle," "3-wheel cabriolet," "the answer to personal transportation." I think that they are being honest in so doing, for altho it has many advantages over motor scooters, it has only the one over a car—that of providing minimal transportation at minimum cost (\$1073 plus tax, in Los Angeles).

Apparently, it does the job quite well in Germany, but in this country it is more apt to find a market among those motor scooter users who would like to drive under cover in the rain, among those owners of businesses needing stimulation by promotion and publicity stunts, in rural communities where persons need drive a few short miles to and from their home,



on large film studio or manufacturing lots, on campuses, and among those who want a luxurious scooter. The best way I know of finding out what a vehicle is suited for is to drive it.

With this thought in mind I approached Dan Collins of Frank Sennes Motor Corp. (210 W. Colorado, Glendale, Calif.), for a short-term loan of the "little m." For the following week I became the butt of jokesters, punsters, worried-looking head-waggers, persons seriously interested in finding out more about "that," and kids who wanted their parents to "buy me one of those."

I didn't attempt to get any performance figures, because I felt that I could get this information by pitting it against the *huge* behemoths on all sides of me in the infamous traffic of Los Angeles. Necessarily always on the alert, I would accelerate as fast as I could thru the 4 gears of the motorcycle-type transmission to keep from being run over, and steer out of harm's way with the airplane-type control bar when I couldn't stay ahead.

Everything concerned with the "little m" was a novel experience, from getting into it to pushing it hard enough thru a corner to lift the front wheel (on the outside of the curve) off the ground. To enter, you unlatch the canopy, tilt it to one side, step in and lower yourself to the driving position. The seat can be fitted to all but the very tallest, for it has 12 adjustment points on a sliding track. There is good headroom, legroom, and shoulder room. The only instrument that demands your attention is the speedometer (in kilometers per hour), which is small but easy to read. Thru some sections of the plexiglas canopy objects will distort, but vision otherwise is superb; you can see the road directly in front of your feet by leaning forward slightly. The windshield wiper is electrically operated.

Altho you would think that such a small vehicle would be exceedingly easy to drive, it's not entirely—primarily because the transmission requires a great deal of attention. Naturally, it is to be expected that you would have to go thru the 4 gears when you're increasing speed, but it's also required whenever you decrease speed or come to a stop. It takes

a fairly hard push and complete clutch pedal action to get it to stay in gear.

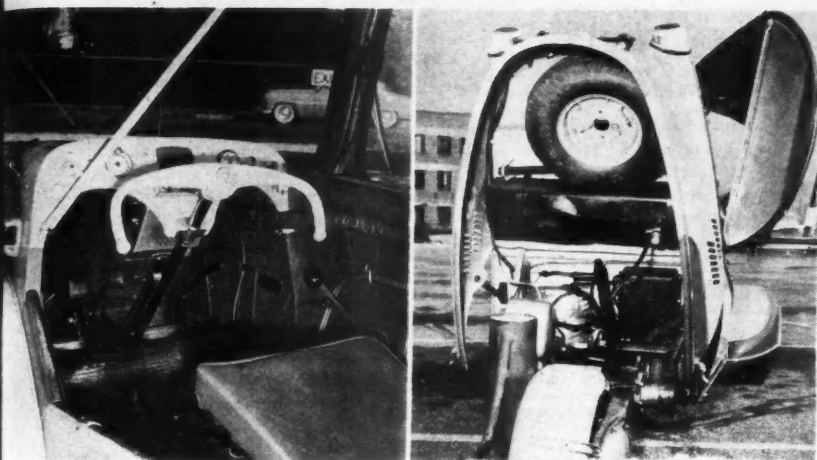
Once you have it in gear the handle returns itself to the original position by spring tension. After you have the transmission in neutral (by use of the fingertip control on the gearshift) you pull the lever back and let it return to upright for 1st gear. Then you push it *forward* and allow it to return to upright for 2nd gear. Repeat for 3rd and 4th. To downshift, you reverse the procedure. Since there are 4 speeds in reverse also, you go thru the same procedure to back up, only *reverse* it. Sound complicated? It is!

As far as maneuverability is concerned, the "little m" really shines. You can whip it around in spots as tight as your mother's corset and park it where only scooters could thread their way in. What you don't want to do is park it where other cars can bang into you, for tho bumpers are available (for \$50 extra) they can hardly be expected to give you much protection.

Once you get onto the open road you have to anticipate road surface changes, since each one bounces you off in a different direction, with the result that you weave down the road. Due to this disconcerting action you don't feel like doing much above 35-40 mph, which is well below its claimed top speed of 62 mph. When you get close to dips and bumps it's best to slow down quite radically, for there is considerable wallowing coming out or over them. It's possible that this is due as much to the rubber torsilastic suspension units as it is to the 3-wheel setup. The double-track steering mechanism adequately insulates road shock from the steering wheel.

The passenger's seat, tho thinly padded, is wide enough to accommodate an adult, has good headroom, but leaves little legroom. It's more suited to a child or to hauling small packages. Interior finish is quite good.

You won't have to drop into your corner gas station too often since the Messerschmitt just doesn't burn much gas (anywhere from 60 mpg on up to 100, depending on how you drive it). Lubing might be a problem unless you cultivate the friendship of the station attendant, who will have to work from the owner's man-



ual the 1st few times. Repairing and maintenance shouldn't be too difficult, since the engine is a fairly simple air-cooled, single-cylinder 2-stroke, and the rest of

the chassis is uncomplicated. Most motorcycle shops would be able to remedy any difficulties if you can't get to a Messerschmitt dealer.

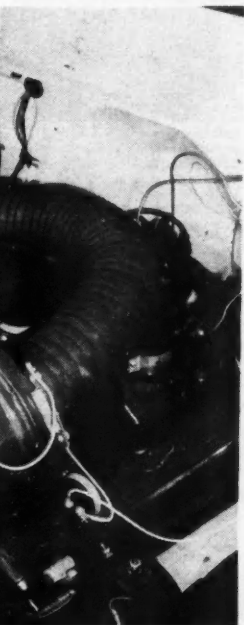
DON'T EVER GET THE IDEA that every pickup truck you see on the street or highway is a truck in acceleration. Not too long ago I drove a pickup that gave new meaning to the word.

On the surface it looked like another '55 Chevy Cameo. But—under the hood Rick Cezon (of Brake Specialties, Inc.) had neatly installed a McCulloch supercharger to give the already adequately powered V8 more horses. We were plenty curious. What this blower did to up the performance can be seen at a glance in the following comparative table of the Cameo truck vs. a '55 Chevy V8 sedan of 162 hp, and a '56 Chevy with 205 hp:

Speed or Distance	Chevy Cameo	'55 Chevy	'56 Chevy
0-60	8.7	12.3	10.7
1/4-mile	17.6	19.0	18.3
30-50	3.7	4.4	3.9
50-80	9.6	15.5	12.0

The figures speak quite eloquently for themselves.

In the 0-60 runs it was necessary to use all 3 gears, going into high at 55-57 mph (corrected). The 30-50 runs were made in 2nd gear and the 50-80 runs were all made in high gear.



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Chevrolet Road Test

nearly as far as the other seatback, a nice detail. (Basically, this keeps seat from hitting steering wheel, also discourages passengers from flattening the driver against the steering wheel when they get out on the left.)

Hardtop headroom is 2 inches less than in 4-door sedans, but lack of space isn't too noticeable until you're forced to the sloping outer edge by a pair of husky passengers. There's no decrease in hip-room, no noticeable loss of shoulder room. Surroundings are pleasant; bolsters and

facings (top, front edge of cushions) are vinyl, as are headlining, door panel trim.

ECONOMY AND EASE OF MAINTENANCE

Fuel economy: Not damaged by new power (as it has been in 225-hp job). Results from last year compare closely to '56 figures; shows improvement at 30, 45 mph which may be insignificant due to differences in engines, transmission, tune, other factors beyond our test controls. But more noticeable increase in economy at 60 can indicate efficiency of new cam at mid-speed rpms. (Valve size and intake ports are not changed to accommodate better breathing offered by higher-lifting camshaft.)

Our traffic checks, run over a more true-to-life course than last year (but still under controlled conditions for accuracy), show a decrease in mileage; but as we suspected after steady-speed and traffic tests were completed, the new car struck a good balance as shown by the tank average, a balance substantiated by Chevrolet's remarks on what they designed into the car—performance, with no sacrifice in fuel economy.

Is the car well put together? We've found from past experience that Chevrolet construction varies no more between cheap models and deluxe hardtops than 2 Bel Airs would vary from each other.

Test car had good-fitting body panels, hood and decklid. From what we could see of the new gas filler mechanism (you turn a vertical chrome bar above the left tail light lens to drop the light housing and expose the filler neck), there should be no unusual troubles with the latch, spring or hinge.

Interior appointments (upholstery, door-panels, floor mats) showed good fit, no gaps or wrinkles; windshield trim molding joined well at edges of wraparound, fit of glove compartment and ashtray doors passed our inspection.

How did it hold up? Space for "Items that go wrong on car during test" in our road test form drew a complete blank. (We listened closely for drive train whine found in another '56 Chevy driven a short time before the test, but noticed no moans from test car's running gear, no clunks in Powerglide transmission when upshifting or downshifting.)

Servicing: Most engine components remain where they were, most are easy to get to. But perhaps more important, because of some engineering changes, you may get even better service from your V8 in '56. Generator has new rubber-bushed mountings to reduce noise and vibration. New model's voltage regulator has been waterproofed (rubber seal between cover and base), is now located on left fender skirt instead of up front on the radiator baffle (this lets Chevrolet use shorter wires, makes unit easier, and accordingly cheaper, to service).

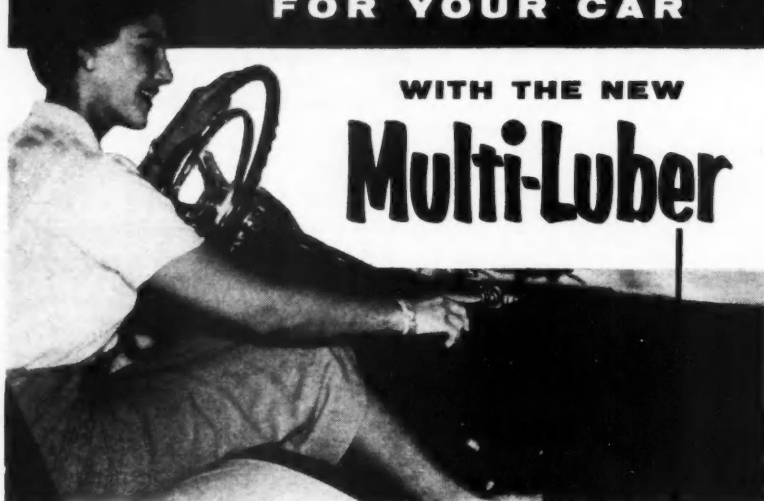
Other electrical system changes include waterproofing neoprene boot over starter motor solenoid plunger, fuse in main light switch to protect instrument panel light circuit, new battery (rubber separators instead of wood, new grid alloy, baffles in the vent caps) with a warranty period of 3 years instead of 55's 21-month period. Chevrolet's new-type headlights (detailed in December '55 MT) feature 3-point aiming system for quick adjustment, low-beam visibility increase of as much as 80 feet.

Summing up: Hidden engineering changes in '56 interested us more than pros

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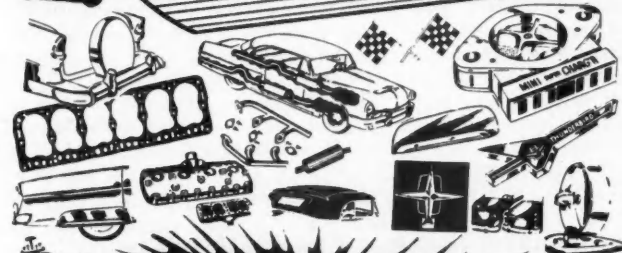
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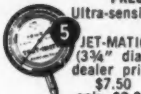


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and cons of styling changes. (In fact, we've heard so much comment on Chevy's new grille and side molding that we can't tell what the majority thinks of the changeover. Did find many people asking if rear fenders were peaked or if paint-and-chrome of Bel Airs achieved the effect; it's the latter.)

But taking away the glitter (which you can do in varying degrees by selecting any number of models), you come up with a car highly impressive in performance, a genuine pleasure to drive, and a car with mechanical features that point up low-cost, long-term ownership. (And so no buyer will have to live with a too-drab machine, Chevy has initiated what may be a definite trend by dolling up its plainest 150

series with side trim and chrome around the windshield.)

Chevrolet is playing what appears like an unpretentious role in the Detroit safety show; dash covering, seatbelts, and the shoulder harness setup in particular aren't being pushed, but they're there for those who want them; safety-type doorlatches were installed in '55s (in July), went unannounced. In power and performance, in appearance and trade-in value, and now safety, Chevy is keeping competition on its toes, might even step on a few to keep from being trampled in the '56 sales rush; they've added new features to the cars, added more cars to the line, and thrown a potent package onto the low-price-class bargain table labeled "Hot." —Jim Lodge

continued from page 19

How GM Got That Way

then brashly ventured forth into high-risk aircraft engine development, and even, in Sloan's mind at least, considered pre-fabricated housing. Almost any mechanical product that was extremely complicated to manufacture, that could benefit from the existing engineering talent reservoir, and was then being made by small firms that lacked resources for proper exploitation—these qualifications made the item grist for GM's expanding mill and still do.

You might ask why this twice nearly bankrupt corporate monster, founded by a man who didn't know the difference between a sparkplug and a piston except by the price tag, emerged to its present-day hold on 50 per cent of car production plus enough else to worry government agencies concerned with "small" business.

We might generalize our answer by stating that GM could (and still can) afford to make mistakes. They did, too. Chevrolet, Buick and Cadillac are currently prosperous divisions that once came within an executive decision of being dropped like those already listed.

Here's the story of Chevrolet's near-miss: When Mr. duPont became president at the time of Durant's 2nd exit, he brought in a firm of highly reputable consulting engineers to survey a reconstruc-

tion program for GM. They recommended amongst other things that the entire Chevrolet operation be liquidated. This division had a network of assembly plants but despite the fine reputation of their "Baby Grand" and "Royal Mail" models, they never managed to get firmly entrenched in the lowest price field, at that time (1921) exclusively Ford's, with 70 per cent of industry production being Model Ts. Sloan, then a vice-president, went to bat and talked duPont out of accepting the recommendation, certainly one of the most fortunate decisions ever made by GM.

Harlow Curtice was sent into Buick as division president in 1933 to salvage another badly floundering operation for which most observers at that time predicted an early end. They had failed to keep step with product development, even within GM, but most important, merchandising and distribution techniques were sad. Super salesman Curtice straightened things out in short order. His 1st real product chance was the 1936 Buick, and with introduction of the Century, it was a bombshell from Flint. Meanwhile, he merchandised the hell out of what he had.

Cadillac was also in trouble in 1933 when the division was losing millions on its ponderous V-12s and V-16s. GM gave it one last chance when the late Nicholas Dreystadt was moved up from service to production manager and then to general

... And as we went to press, 2 new GM 1sts in 1 ...

IN HILLY TERRAIN a heavy truck driver's 2 big chores are the endless gear changes in climbing a hill and the touchy, wearing use of the service brakes in descending. With this in mind, Chevrolet has introduced its new Powermatic torque converter truck transmission which incorporates a brand-new "retarding" device. Like the driver of an automatic-transmission-equipped car, the driver of a new Chevy truck simply selects his range (DRIVE, INTERMEDIATE or LOW) and he's automatically supplied with the appropriate up-and-down shifts in each range. And, just as Powermatic gets the truck up the hill with no strain, the new retarder gets it down. The retarder is a pedal device

(in the position of a clutch) which, when put into action, floods a transmission chamber to set up a reverse hydraulic force against an engine-driven impeller. Chevy says that this reverse-like braking effect is up to 6 times engine drag. It is expected that on most downgrades a driver using the retarder won't have to touch his service brakes at all. In addition, the new transmission has a lock-up clutch which cuts in automatically at certain speeds to transfer the engine-transmission coupling from hydraulic converter force to mechanical drive. And, for the 1st time on an automatic transmission, Powermatic provides power take-offs for the operation of various accessories.

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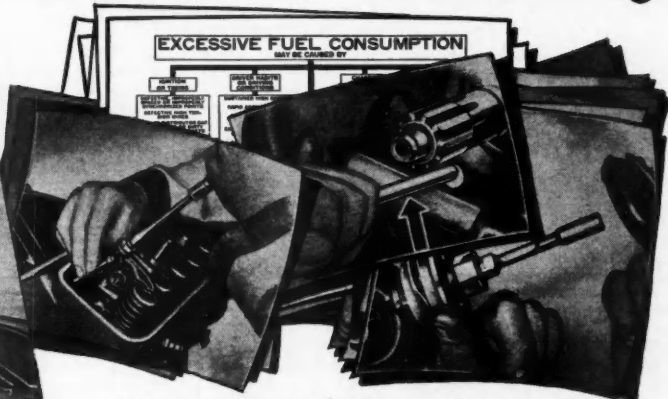
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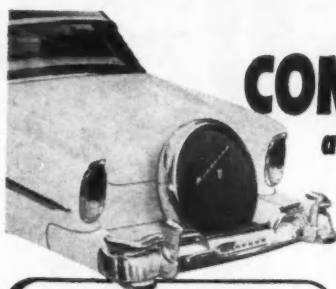
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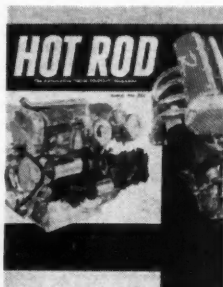
"HOT RODDING AN MG"

BY JOHN CHRISTY

"ROD TESTING THE '56 FORD"

ON SALE

FEBRUARY 16



manager. He soon boiled the line down to products more in keeping with the times, with one common V8 except for V-16s.

A peculiar paradox during this period was the LaSalle. Theoretically, it should have backfired on Cadillac the way Zephyr did on Lincoln and the 120 on Packard. However, this didn't happen because for some reason the public never associated LaSalle with Cadillac. It was dropped in 1940 when the 2 cars had literally merged.

GM could afford to make these mistakes because, even in their short periods of trouble, they have always had the vast amounts of capital necessary to manufacture and merchandise a complex piece of consumer goods, whether brand-new in concept or an extension of an old line. Anyone can start an applesauce business in his basement, even now. However, ask Edgar Kaiser or Preston Tucker how easy it is to bring to market a new automobile.

Constant improvement of the automobile is almost as difficult; at GM it is brought about by what Harlow Curtice calls "the application of the inquiring mind to research and engineering."

In 1923 the Cadillac Division developed and introduced the synchromesh transmission; in 1929 Alfred Sloan said, "We must remove the consciousness of the transmission and clutch from the driving habits of General Motors car owners." This was the touch-off of automatic transmission development at GM, with the 1st commercial semi-automatic product being pioneered by Oldsmobile in 1937, and the Hydra-Matic following shortly thereafter, in 1939. The progress in automatics since that time is an old story, except that it's not yet finished. The latest is Chevrolet's new "braking by reversing" Powermatic transmission (see page 50).

The Cadillac Division can probably take the credit for the prevailing dominance of V engines over all others. They introduced the 1st V8 built in this country in 1914, and from the Kettering 12-to-1 research engine developed the present short-stroke, overhead-valve V8.

The approach of "the inquiring mind" has paid off in other improvement 1sts, some of which we all now take pretty much for granted: the self-starter (Cadillac, 1913), cellular-type radiators (1920), oil-less Durex bearings (1923), chrome plating (Oldsmobile, 1925), and a generator with controlled current to keep the battery fully charged for extra loads (Cadillac, 1934).

GM has also introduced such features as hydraulic valve lifters (Cadillac and Buick, 1949), tinted glass windshields (Buick, 1951), the possibility of gas turbines and sun-powered engines for future autos (1st announced in 1951), the Autronic Eye (1952), and air conditioning (Cad and Olds, 1952).

Alfred Sloan's contribution of managerial efficiency coupled with increased emphasis on engineering, as exemplified by succeeding presidents "Big" Bill Knudsen

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Use your KozaK DRYWASH Cloth for 30 days. If you are not delighted with its speed and ease, and with the clean bright look of your car every time you use it... AND if you do not agree it has saved you its cost many times over... just write and the money you have paid will be refunded in full immediately. You do not have to return the KozaK. We have saved car owners thousands of dollars, helped keep their cars looking clean and new for 30 years. We fully expect to please you too or it's no sale and no pay. On this unconditional guarantee tear out and mail the coupon now.

KOZAK AUTO DRYWASH

349 S. Lyon Street
BATAVIA, N. Y.

What a KOZAK DRYWASH Does:

- Removes dirt.
- Polishes as it cleans.
- Saves time and work.
- No hose needed—sump, hose or water... no pressure, moisture to rust springs and start squeaks.
- It's safe—over 10 million used.
- Protects the finish.

Unconditionally guaranteed to give you a bright clean car fast, easy, safe, or your money back at once!

HAVE A CLEAN, "NEW LOOKING" CAR IN ONLY MINUTES—NO MATTER WHERE YOU LIVE OR DRIVE—NO MATTER HOW OFTEN IT RAINS OR SNOWS

MAINE: "Send me two more of your KOZAK Cloths. I have used one KOZAK all winter on my car and have not had to wet-wash it once. I am sold."
Theodore Wood

MARYLAND: "I am a private chauffeur. I take care of five cars. I am still using the KOZAK Cloth I got from you, and it is just wonderful."
J. Whittington

MISSOURI: "Have used them for several years on all our Funeral Automobiles. All you advertise them to be, do not want to be without them."
Merle Shepard

NEW JERSEY: "I have been using the KOZAK for the past six months, and I am amazed at the very fine condition it has kept my car in. Dirt vanishes and the car is as brilliant and shiny as new. Send me three more KOZAKS."
H. H. Furber

NEBRASKA: "I would not be without the KOZAK. With very little effort I am able to keep my car clean and new-looking at all times, and have eliminated many costly wet-wash jobs. Please send me five more as soon as possible."
Edward G. Erlewine

NORTH CAROLINA: "Never saw anything to equal the KOZAK for an automobile. My car hasn't had a water-wash in six months, and looks better. Here's check for another KOZAK."
C. R. Ricker

OHIO: "I highly recommend your KOZAK Cloth. It has kept my 1951 Plymouth looking clean and new all the time, to say nothing of the money saved in not having the car washed."
Mrs. Jessie W. Friedmann

PENNSYLVANIA: "I have been using your KOZAK Cloth for about ten years. My 1948 car has been water-washed twice in that time and then only when it was Simonized. Many people ask me if I had my car painted."
E. A. Puderbaugh

UTAH: "I have used your KOZAK Cloths for my cars for the past 15 years. They have given me entire satisfaction. Everybody admires my car. I inform them that KOZAK Auto Dry Wash does the trick. I can recommend them highly."
A. D. Sargent

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KOZAK 349 So. Lyon St., Batavia, N. Y.

Please send postpaid at once:

REG. \$2 KOZAKS

(millions use them)

☐ 1 for \$2

☐ SPECIAL INTRODUCTORY OFFER

2 Reg. (\$4) plus 1 Super (\$3)—\$7 value—\$5.00

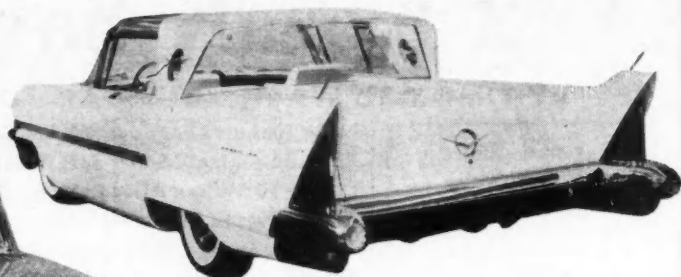
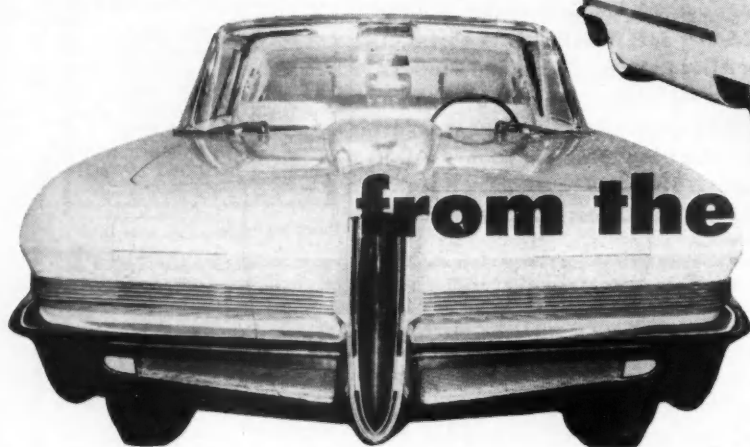
SUPER \$3 KOZAKS

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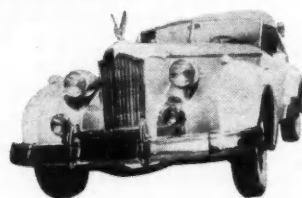
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PROPHECY



from the PAST



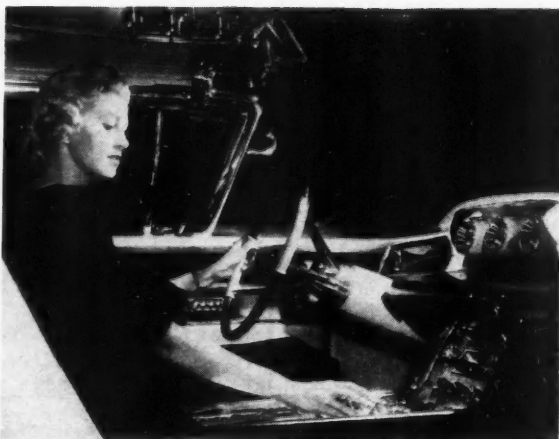
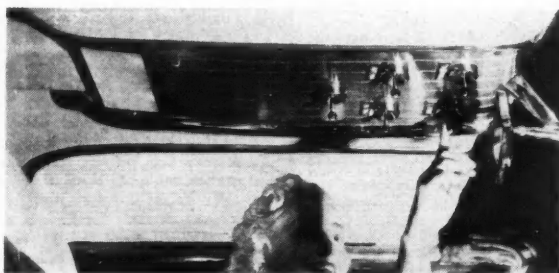
PACKARD'S contribution to the Chicago Automobile Show, the Clipper Predictor, is neither a "dream car" nor a '57 model, but a forecast of engineering and styling in Packard development. Yet it still retains a feeling of days past in the bumper guard, a carryover of the famous Packard grille. This guard, pivoted at the top and using a shock absorber at the bottom, provides a unique and practical solution to the problem of front-end protection.

A 374-cubic-inch V8 of over 310 horsepower nestles under the hood. Power is transmitted thru an electrically operated automatic transmission controlled from a pushbutton "bomb" to the left of the deep-dish steering wheel. (A clock is in a similar "bomb" to the right.) Provision is made to allow the installation of a rear-mounted transmission-differential unit and independent rear suspension.

The unusual door treatment is prompted by the Predictor's 54½-inch height. When the doors open, electric motors automatically retract the extruded aluminum roof panels 8 inches into the roof, allowing easy access to the seats, which swivel toward the doorway on operating a lever under the seat. The panels can also be opened by pressing a button on the inside of the roof. The back window is opened electrically from a dashboard control. With the compound-curved, wraparound-and-over windshield, roof panels and back window open, you have the open-air feeling of a convertible.

No chrome is visible on the car; body panels and moldings are planned as integrated units, and give the appearance of coming right thru the glass as one continuous sheet of metal. All window and door gaskets are inset so as not to disturb the clean design.

Upholstery is leather; seats have a white bolster surrounding a black reversible insert (as on '56 Caribbeans), providing a quick change of interiors for luxury or practicality.



The tunnel extending from the instrument panel back between the front seats to the rear seats forms a sort of armrest. But from front to rear, there is at least a provision for all these items: a radio and its controls, a radar scope, a control console for heater controls, lots of pushbuttons for controlling the seat adjustment, door panels, windows, retracting headlights, antennas, windshield wipers, a telephone, tape recorder, ashtrays, a glove compartment, radio speaker and controls.

and "Engine" Charley Wilson, left a (recognized) gap in automotive merchandising. Styling, GM and elsewhere, started with the advent of Harley Earl and his 1927 LaSalle. This was an essential part of merchandising, as most cars ran reasonably well by now, but the concept didn't become all-important until warnings of the approaching buyer's market became apparent in 1948, with waning interest in what were obviously warmed-over pre-war cars with minor facelifts.

It was then that Harley Earl got the go-ahead to create Le Sabre, a 2-year project and the 1st of a long line of show cars which may have been criticized in total but left an undeniable legacy of very salable details. True, Buick had its "Y" job in 1938 and Chrysler produced special custom built Thunderbolts in the early 1940s, but a wedding of styling and showmanship (who long before should have lived together, wedded or not) did not come publicly until the 1st dream-car-studded Motorama, premiered in New York in January, 1953. There were other Motoramas, before and after World War II, but the one in 1953 jelled the concept. Ever since, the whole industry has given sneak previews of what is to come thru dream cars, and thus whetted the appetite of nearly every member of the U. S. car-buying public.

Expansion of the Motorama idea, as well as all the other "amas" including Power and Future, plus Parade of Progress, is just one weapon in super-salesman Curtice's book. It is an era of selling all one can produce, and "GM's Curtice" is doing a pretty good job as the records will show. Despite all this and the fact that he is man-of-the-year, he also has the problem-of-this-year and those immediately to come. He must prove that in business, bigness is not a sin.

—Don MacDonald

continued from page 24

'56 Dodge Road Test

wheel crossbar that developed very early.

Servicing: The '56 Dodge should present no unusual servicing problems. Except for the usual accessory plumbing and shrouded carburetor, engine components are accessible, especially the sparkplugs. Unlike many new V8 engines, it won't require asbestos gloves, special wrenches, and the patience of Job to clean these plugs. They sit right out in the open, a tempting challenge to the "do it yourself" fan. With the 6, you can climb into the compartment alongside it, and still have room to work.

Summing up: Not satisfied to rest upon past laurels, Dodge for '56 has been improved mechanically and stylistically to meet the challenge of a highly competitive year. If style, comfort and driving ease are any portent of the future, this challenge should be met with flying colors. There are many features that make this an ideal family car.

—John Booth



Bendix

ELECTRIC FUEL PUMP

For the very few who really want perfect performance!

The average American car owner demands satisfactory performance from his car. With a modern American car, he's likely to get it with standard equipment. He is not a very likely prospect for a Bendix* Electric Fuel Pump. But the owner who insists that his engine deliver every last ounce of power

that was built into it is the fellow the Bendix Electric Fuel Pump was designed for. If you're one of those car owners who never stop striving for perfect engine performance, you need a Bendix Electric Fuel Pump. Once you've tried it, you'll never operate a car without it. (Write for illustrated folder.)

Sold in Canada by Bendix-Eclipse, Ltd., Windsor, Ont., Canada

ECLIPSE MACHINE DIVISION ELMIRA N. Y.

Bendix
AVIATION CORPORATION



STOP

SAGGING REARS

WITH LOW-COST
AIR LIFT
PNEUMATIC
SPRING BOOSTERS



Even new cars can get that "middle age spread" look! If you carry luggage, equipment, or even a full complement of adult passengers, your rear springs are screaming for help on any lengthy trip.

Air Lifts fit between the leaf springs and frame. They inflate with air—adjust with air—giving exactly the right amount of support for any overload up to one thousand pounds. When not overloading, simply deflate 'em and leave 'em in place. Super-simple to install and factory guaranteed. See your dealer or write for his name.

FREE! . . . Illustrated, tip-packed literature on Air Lift remedies for sagging rears. Write department 53.

AIR LIFT COMPANY, Lansing, Michigan

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In April
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Complete
Details of
FIREBIRD II

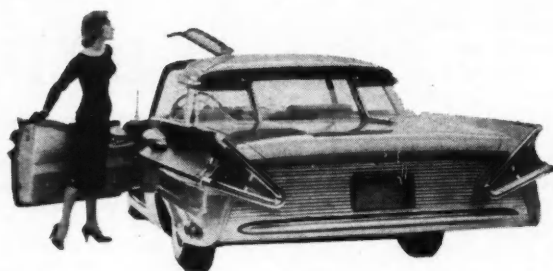
When can you
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How to
avoid the
**TRANSMISSION
REPAIR
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ROAD
TESTS OF
"3"
POPULAR
U.S. CARS

EXPRESS MERCURY



WITH A DASH of Mercedes-Benz 300-SL and a pinch of Citroen DS-19 blended into a striking present-day theme, Mercury stylists and engineers have come up with what looks to us more feasible a production car than a dream: the XM-Turnpike Cruiser. Mercury planners apparently feel that the product of the near future must take maximum advantage of the current growth of turnpikes

and super highways, and General Manager F. C. Reith calls the Turnpike Cruiser the 1st car so designed.

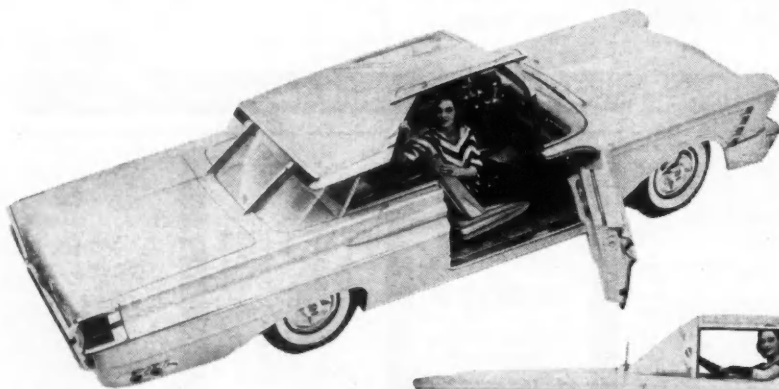
The long Turnpike Cruiser (with a length equal to current Lincolns) is intended to seat 4 passengers comfortably in individual seats and provide maximum visibility all around by use of a double-curvature, wraparound windshield, 4 very slim roof support posts, and transparent

plastic roof panels. Because of its 53-inch (3 inches below the Continental's height) silhouette, the plastic "butterfly" panels in the roof have been made to open automatically when the door is opened to ease exit and entry.

Like the new Citroen the Turnpike Cruiser has an inset rear window with stoplight-turn indicators recessed beneath it. The outstanding styling feature is the deep concave panels extending from the door to the rear fender and terminating in huge, V-shaped tail lights. These panels of pearlescent white contrast with the per-simmon body color.

Before going on national tour in a special glass-sided, turntable-equipped trailer (tabbed the "Van-O-Rama"), the car will have been viewed at auto shows in Chicago, Omaha, Milwaukee, Detroit and Kansas City. See this one for sure, if you want to know what to expect from Mercury in the future.

—Al Kidd



(ADVERTISEMENT)

Still going strong at 162,000 miles without overhaul ... yet the engine is as powerful as new!



Winthrop A. Johns and the original test car, a 1940 Ford, says Win "I don't expect to live long enough to wear this engine to the first overhaul! At the present rate of wear it will run at least 700,000 miles."

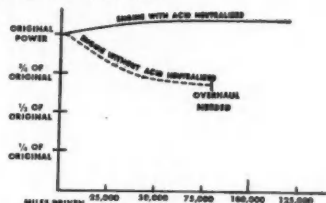
THIS CAR, AND Hundreds of Other Test Vehicles Are Revolutionizing Motor History By Means of a Special New Device that Neutralizes Corrosive Acids as They Are Formed!

HERE IS THE PROOF

These are **FACTS**, not claims, gathered in 16 years of road tests over millions of miles in 1500 cars and trucks—**NOT** laboratory tests under simulated conditions.

1. POWER

No engine tested decreased in power. Many have gone 120,000 miles.



The graph above shows the normal decrease of engine power, compared with the power output of engines protected from acids. Top performance is yours almost indefinitely—one, two, five or even ten years. Most protected engines are outlasting their bodies.

2. IGNITION

Spark plugs last up to 60,000 miles—waste less gas. The spark plug shown is from a set of 8 after 60,000 miles—the entire set still testing 93% efficient!

IS IT ACID OR FRICTION?

Engine friction—excepting fans, pumps, belts and windage—is negligible. Our tests show almost no metal to metal contact. Acid is the real cause of motor deterioration.

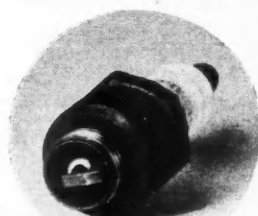
SULPHUR FORMS ACIDS

Gasoline is about 1/1000th sulphur. Leaded gasoline also contains bromine and chlorine. In 1000 gallons (enough for 15,000 to 20,000 miles) there is about 6 lbs. of sulphur—enough to make 6 gallons of strong sulphuric acid. When gasoline burns, corrosive gases (SO_2 , SO_3 , HBr and HCl) blow by the pistons into the crankcase. Here they combine with condensed water (also blown by) almost always present in oil, to start a vicious circle. SO_3 is a thirsty compound. It absorbs water to form sulphuric acid, which in turn attracts more water, which dissolves more SO_3 , which in turn attracts more water! This water body then absorbs gases to form H_2CO_3 , H_2SO_3 , HCl and HBr —all corrosive acids. Acids cannot work without water—but your engine makes large amounts of it—about a gallon for each gallon of gas; you have seen it drip from your exhaust!

ENGINES HAVE SHORT LIFE

In door to door service some have an appallingly short life. Often only 15,000 to 20,000 miles! Enough materials blow into the crankcase to make a pint of acid a day. Most of these are removed by ventilation but the small amount left is enough to damage your engine seriously. Even carbonic acid, which you drink in soda pop is powerful enough to corrode iron $\frac{1}{8}$ inch per year.

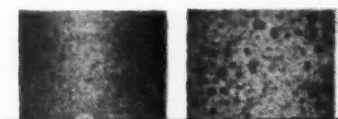
JOHNS MFG. CORP., DEPT. M-3, MIDDLESEX, N.J.



Actual photo of one of the plugs after 61,810 miles, showing good condition of the electrodes.

3. FRICTION WEAR ALMOST DISAPPEARS

Fleet tests show wear reductions of almost 6 to 1 on stop and go service.



The bearing at left above is from an engine with Magna-Power after 112,000 miles in 11 years. It is still good for many more years of service and 4 times the miles. At right is one from an unprotected engine after 63,000 miles! IT IS WORN OUT!

NEW DIRECT WAY TO KILL ACIDS

Acids destroy themselves by eating metals. Acids attack first metals most easily eaten. Almost perfect protection is obtained by our special alloy of MAGNESIUM and aluminum. Since magnesium is by far the most easily attacked metal in the engine, the acids eat it and are destroyed. Without acids, water is no longer held. Without water acids cannot form. The vicious circle is interrupted. Less sludges, gums and resins are formed.



At left above are two cylinders of a milk truck at 65,000 miles with Magna-Power. It is $\frac{1}{4}$ worn out. Identical engines in the same fleet but without Magna-Power wore out completely at 40,000 miles. At right are shown several large city buses—part of the extensive fleet testing program.



A Magna-Power acid neutralizer Pat. Appl. for.

SUMMARIZING:

Normal wear, as you know it, does not exist. Manufacturer's figures are increased up to 10% in economy, speed, power. Engine wear life is increased to at least 300,000 miles by adding the Magna-Power Acid Neutralizer. Magna-Power will help any engine that uses less than 1 qt. of oil each 500 miles, OR YOUR MONEY BACK.

GET ONE NOW FOR YOUR NEXT OIL CHANGE—

The gasoline you buy has sulphur in it. When sulphur burns it forms sulphuric acid. Sulphuric acid eats metal. Little by little your engine is eaten away. To combat this damage, many oil companies are now using anti-acids in their oils. But what happens when these compounds are overcome? Your engine corrodes once more!

Acid is one of nature's methods of reducing refined metals to their original primitive state. Even the Shell Oil Co. has now proven that acid corrosion is the major cause of engine wear!

There Is Only One Way to Safely Inhibit Acid Formation in Your Engine

Of course, if you choose to carry testing apparatus (litmus paper or some such other device) you might be able to tell when your oil is becoming acid, due to the destruction of the anti-acid compounds. But the easiest way, it seems to us, is to use a metal plug of MAGNESIUM and aluminum, which is by nature an alkaline metal, and which, attached to your oil drain plug, permits easy inspection at the time you change your oil. Thus you can see at a glance, by means of observing the state of corrosion of the plug, whether or not your engine is being attacked. For acids much prefer alkaline metals such as magnesium for "lunch," to the other metals in the engine.

This Is a Very Simple Idea

However, it was developed by a mechanical engineer after many years of trial and error, using such compounds at first as potash, magnesium shavings and other devices, none of which were as easy, simple or positive as this new oil-drain plug device.

It Is Thoroughly Tested

Milk fleets, passenger cars, bus lines and trucking companies all have tested the new "Magna-Power" Neutralizer in controlled field operations. Their enthusiastic letters are available for your inspection at any time.

You Can See the Action in a Few Seconds

If you take a Magna-Power neutralizer and drop it into a glass of vinegar you will see it foam wildly. Even grapefruit juice will cause an effervescent action.

Experiment with the Magna-Power Neutralizer at OUR Risk—Many Imitators, But No Guarantee Like This

If you are not satisfied with the way it works, send it back, at any time (years from now, if you choose), for an immediate refund.

JOHNS MFG. CORP., Dept. M-3, Middlesex, N.J.
My car is a.....(make).....
.....year.
Please send me ppd. a MAGNA-POWER acid neutralizer. I enclose \$2.95. I understand that it is sold with an unconditional guarantee of satisfaction or my money back!
Name.....
Street.....
City.....Zone.....State.....

THE TREND IN

BRAKES



As horsepower goes up and cars become heavier, stopping becomes a particularly difficult problem

BY JOHN BOOTH, Engineering Editor

THE PROBLEMS

IT HAS BEEN SAID "the most important invention ever conceived by man is the wheel." True, it gave birth to his understanding of the value of rotary motion upon which our whole technological advancement has been based, but equal in importance was his invention of the brake. Without the ability to stop rotary motion at will, the tremendous potential created by the wheel would be reduced to an impractical status. This is especially true of all modes of mechanical transportation in general, and of the modern automobile in particular.

Imagine driving a 4000-pound car down the highway at 60 mph with no means of bringing it to a controlled halt. Fantastic? Of course it is! You wouldn't even attempt it. Yet, thanks to the invention of the brake, you are able to bring this mass of steel to a dead stop in less than 175 feet. This is fantastic too, but it didn't just happen. It's taken a half century of engineering research to accomplish this feat.

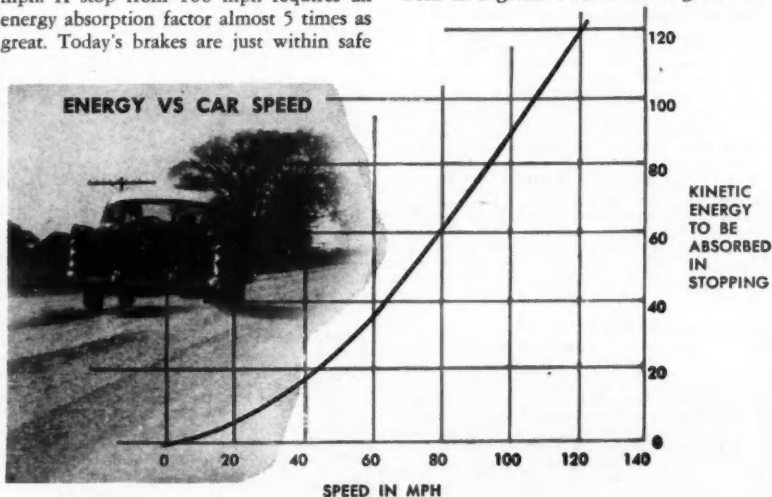
Years ago, the brake was a simple wooden block that was pressed against the

wheel by a lever. The resultant friction brought this wheel to a halt. Today we use exactly the same basic principle (frictional application) but now we apply it at speeds up to 110 mph instead of the 3 or 4 mph attained then. The fact that this basic principle (which is the only practical one we know of) still works, is the result of this engineering research.

Unfortunately, as automobile performance increases, the loads imposed upon the brakes increase out of all proportion and engineers find themselves involved in a never-ending race trying to develop brakes to match this rising performance (see Energy vs. Car Speed Graph). As can be seen, twice as much energy must be absorbed in a stop from 60 mph as from 40 mph. A stop from 100 mph requires an energy absorption factor almost 5 times as great. Today's brakes are just within safe

operating limits but on yesterday's car they would have been more than adequate. They have to be half again as good as brakes on a '47 car. What's more, on tomorrow's car they will be useless if automotive performance continues to climb as it gives every indication of doing. The kinetic energy will simply be too great.

That today's brakes operate within safe limits is nothing short of miraculous when you consider the almost unbelievable work they must perform to bring your car to a rapid halt. For example, an automobile developing 200 hp will probably accelerate from 0-60 mph in close to 12 seconds. To stop within safe limits, however, the brake must bring the car to a halt from this speed in much less time. From a practical point of view, since it takes as much effort or energy to bring a given mass of weight to a halt as it did for it to attain a given speed, it becomes necessary to design brakes that perform 2 to 3 times as much work in a given time as the engine. This



produces a tremendous heat buildup which is the brake engineer's greatest enemy. To fully comprehend the magnitude of this problem, it is necessary to understand why this heat is generated and what adverse effect it has on the whole brake system.

Like an automobile engine, brakes must do a certain amount of work in a given time. The engine burns fuel, expanding it under pressure to produce mechanical energy which is converted into kinetic (motion) energy. The burning of this fuel produces a given amount of heat in direct proportion to the work done, the work being measured in terms of horsepower. Brakes reverse this process thru friction, by converting the kinetic energy created by the engine into heat energy to stop the car. The work, involving heat, is measured by horsepower and is used both to start and stop motion.

This means that a 4000-pound car travelling 60 mph (88 feet per second) will momentarily require 640 horsepower to stop, which represents a heat buildup of 452 BTUs per second—for comparison, enough heat to melt a pound of steel in less than 2 seconds!

Fortunately, this tremendous horsepower is necessary for just an instant, otherwise the heat generated would melt the drums. A glance at the Brake Energy Chart will show that almost 30 per cent of the total energy required to stop is absorbed in the 1st 10 mph reduction in speed, while the last 10 mph uses only about 3 per cent of the total energy. It is this rapid reduction in energy rate that prevents complete brake disintegration.

Under most driving conditions, hard stops are infrequent enough to allow brakes to cool off by exposure to the surrounding air. There are other conditions, especially in mountainous areas, where it sometimes becomes necessary to use the brakes repeatedly until heat buildup renders them completely ineffective. This condition is called brake fade.

Excessive heat buildup produces a rapid and abnormal expansion of the steel brake drum which increases the clearance between the shoe and the drum. As the ratio of pedal to shoe travel is approximately 350 to 1, even a slight expansion will materially increase pedal travel. In advanced fade cases, this expansion can be so excessive that full pedal travel will not make the shoes contact the drum with enough force to stop the car.

Another phenomenon associated with excessive heat is a definite loss or erratic change in coefficient of friction between the brake drum and lining. When this occurs, even tho the pedal travel hasn't increased appreciably, the shoe lining won't produce enough friction to stop the car;

conversely, it may suddenly produce much more friction, causing a violent and unpredictable pull to right or left. Generally speaking, however, all 3 conditions exist to some degree during brake fade.

On really advanced cases, another problem is created which, altho rare in passenger cars, is rather commonplace in sports car races. This condition is known as hydraulic fluid boil and will cause a spongy and ineffective brake action similar to having air in the hydraulic system.

Once the brakes have shown a mild fade, they should return to normal after a short cooling-off period without any permanent damage. Advanced cases can warp brake drums, score and char brake lining, damage rubber cylinder seals and cups, and melt wheel bearing grease. When severe brake fade is suspected, a thorough visual check of the brakes and wheel bearings is in order.

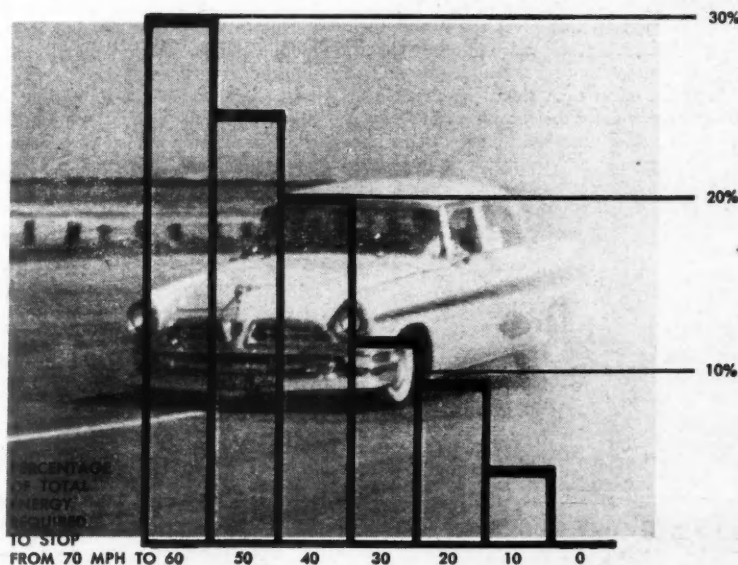
The present trend toward larger tires, smaller wheels, and encompassing fender design has contributed in no small degree to the inherent brake characteristic of heat generation. By obstructing the natural air flow around the brake, heat dissipation is reduced, giving this fade potential a help-

ing hand and materially increasing the cooling-off period.

Since heat generation is a natural product of present brake design, engineers are approaching the problem from a basic standpoint, that of making brakes operate in spite of heat buildup. The use of more heat-resistant lining, better lining-to-shoe bonding, control of drum expansion thru use of stamped face plates, heat-resistant hydraulic fluid, and better rubber seals are all contributing to heatproof brakes. Engineers still have a long way to go if they intend to gain ground on the performance increase, and they know it.

Heat buildup is not the only problem confronting the brake engineers, but research has either eliminated or reduced these other problems and further developments are being made daily.

Brake lining, which not too long ago was woven of many materials including wire and asbestos, has improved tremendously in recent years. Molded lining riveted to the shoes has eliminated many brake problems such as poor coefficient of friction and rapid wear. A more recent development is the bonding of this molded lining to the shoes by a chemical pressure



CONTINUED

BRAKING continued

process, thus eliminating the necessity of using rivets which can score the drums. Bonded lining can also utilize square-cut ends which produce a wiping effect tending to keep both the drum and the lining itself free of foreign matter. Bonding also aids in consistent braking action with self-energizing brakes, because it prevents the lining from slipping on the shoe, as sometimes happens with riveted linings. Both

General Motors and Chrysler have done much research in bonding techniques, and lining manufacturers are constantly developing materials having better resistance to wear and heat with an ever-increasing coefficient of friction.

Many techniques are being experimented with to develop longer wearing and more heat-resistant hydraulic brake components. Present rubber piston cups will

deteriorate rapidly if temperatures exceed 250° F. Hydraulic fluid is being developed that will resist boiling up to 400° F. Some experimental metals are extremely stable under all conditions of heat or cold. New mechanical and hydraulic ratios are undergoing tests, as are completely new braking principles. What this research may produce in the future can best be seen by examining what it has produced.

2 PRESENT-DAY BRAKES

Our present production brakes are of the hydraulically actuated, 2-shoe, internal-expanding type. There are 3 basic designs of this brake, the difference being in the method of attaching the brake shoes to the backing plates.

Probably the most popular design, currently used on the Bendix brake, is the self-energizing, self-centering principle. In this system, the shoes are mounted so that the top (or toe) ends rest against an anchor pin and are held in place by return springs (see drawing). The bottom (or heel) ends attach to a free-floating adjustment screw, also by a retainer spring. As pressure is applied to the brake, the primary (front) shoe contacts the revolving drum and a resistance is set up which causes the shoe to move downward slightly. This movement is transmitted to the secondary (rear) shoe by means of the floating adjustment screw, forcing the secondary shoe to contact the drum at the bottom as well as the top. This produces a wrap, or windup, effect. It is this progressive wrap that gives the brakes their self-energizing and self-centering characteristics, creating more torque per unit of applied effort than would be possible on a brake without this wrap-up feature.

Two other shoe attachment designs have been popular in the past and have been used extensively on Lockheed brakes: The 1st type anchors the shoes at the heel or

bottom by stationary anchor pins or cams which are attached to the backing plate. In addition to shoe placement, these cams are used to adjust shoe-to-drum clearance at the heel (bottom), while additional eccentric cams are used to adjust the clearance at the toe (top). This design allows some self-actuation effect on the leading shoe, but none on the secondary shoe. The ratio of work between these shoes is about 3 to 1. This causes the leading shoe to wear faster.

The 2nd type was developed for use as a powerful front brake. It is unique in that it has 2 primary shoes, and requires the use of 2 hydraulic cylinders mounted top and bottom (see Chrysler Center-Plane Brake Drawing). The front shoe is attached to the top hydraulic cylinder at the toe and to an anchor pin at the heel. This pin is mounted to the backing plate. The rear shoe is mounted in the same way, except in reverse and to the bottom cylinder. Major shoe-to-drum adjustment is accomplished by the anchor pins.

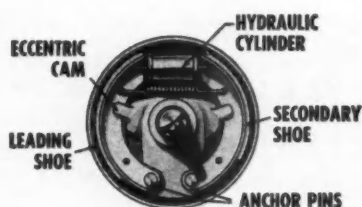
Due to the weight transfer of an automobile during braking, the front brakes must perform most of the work. A violent stop (deceleration rate of 30 feet per second, twice our normal testing deceleration factor) can transfer as much as 71 per cent of the car's total weight to the front end. It is for this reason that the powerful double cylinder design was de-

veloped and also the reason why front brakes wear out faster than rear brakes.

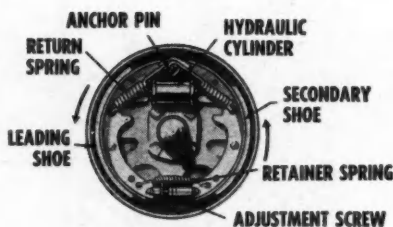
Still another approach to the self-centering principle can be found in the Wagner brake. This design incorporates a steel block anchored to the backing plate to hold the heel ends of the brake shoes. This block has machined surfaces upon which the heel ends of the shoes rock when the brakes are applied. At the same time they automatically center themselves in relation to the drum by moving radially on these machined block surfaces until the shoe pressure is equalized.

One version of this brake incorporates a self-adjusting device to compensate automatically for lining wear. This device consists of a contact plug which extends thru a hole in the center of the leading shoe and lining. By means of a lever, spring-actuated wedge and wedge guide, this plug maintains a constant shoe-to-drum clearance by advancing the shoe toward the drum as lining wear occurs.

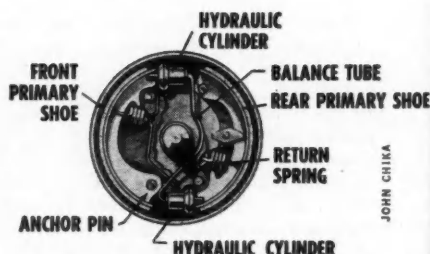
A new (to the U.S.) design appearing this year is Chrysler Corp.'s "center-plane" brake (see drawing). Like Lockheed's earlier 2-leading-shoe principle, this brake utilizes 2 hydraulic cylinders mounted top and bottom, but the shoes are *not* anchored at their heel. Instead, they butt up against machined blocks mounted to the backing plate which, like the Wagner brake, will allow movement radially, pro-



LOCKHEED CONVENTIONAL BRAKE
(Not self-energizing)

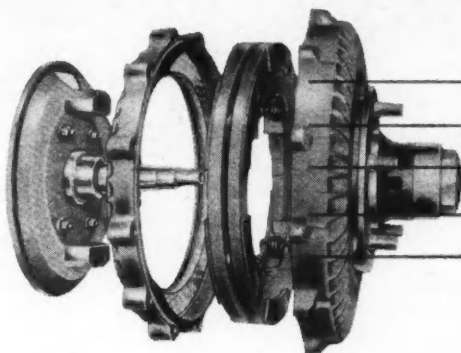


**BENDIX SELF-EQUALIZING,
SELF-ENERGIZING BRAKE**



CHRYSLER CENTER-PLANE BRAKE

JOHN CHIKA



ducing a desirable self-centering action.

The web of the shoes is unusual in that it is calibrated in depth so that equal pressures are applied to the drum along the entire length of the lining by shoe distortion when brakes are applied. Due to the unusually close fit produced by this pressure-induced distortion, unit lining pressures are lessened, thereby reducing "hot spots" under severe braking conditions. This should tend to control erratic braking and brake fade to some extent. Brake adjustment is accomplished by a conventional cam which controls shoe-to-drum clearance.

Various types of features have been incorporated in our present production brakes to help reduce brake fade and pedal pressures. Vastly improved lining materials and shoe application techniques have made sudden stops safer and more reliable. The recent trend toward power-assisted brakes has allowed more engineering scope and induced better pedal-to-throttle placement. While power application admittedly adds to the overall complexity of today's automobile, it may play an even greater part in brakes of the future by becoming an integral part of the brake system rather than an optional accessory.

Whether power for application of brakes is derived from hydraulic, vacuum, or mechanical torque, it has one major purpose—that of reducing pedal pressure. This will eventually allow engineers to disregard the coefficient of friction as it pertains to human capabilities to apply it, and concentrate on new designs and on practically heat- and wearproof materials requiring power assists to create enough friction to stop a car.

It has taken years of constant research to bring our present production brakes to the rather questionable efficiency they now enjoy. Fortunately, knowledge is cumulative and this past endeavor will pay big dividends in the near future by creating brakes that *always* stop and are economical enough to allow car manufacturers to put them on production cars. Already this

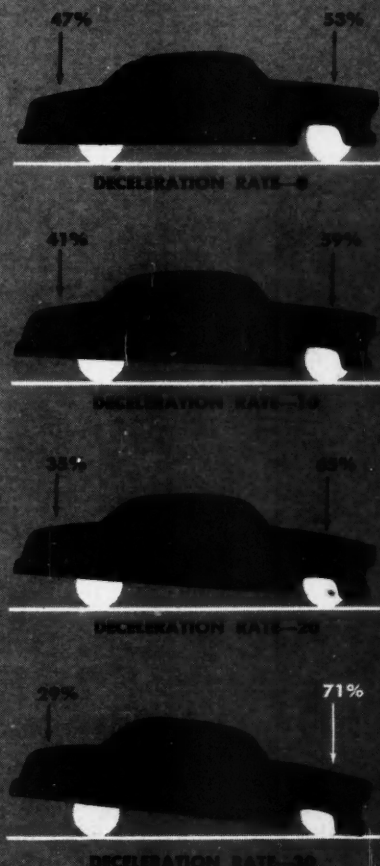
knowledge is producing, on a limited or experimental basis, brakes that are superior in efficiency to any production brake now in use.

Probably the most familiar in this category is the Ausco-Lambert disc brake (MOTOR TREND, May '55). An early cast iron version was standard equipment for several years on the Chrysler Imperial. Altho dropped by Imperial in '56, this design has material advantages over our present brakes. The earlier version had several disadvantages. The enclosed cast iron drum or housing had a tendency to hold heat once it built up, and the brake was costly to produce and maintain. The new version, having an aluminum housing, radiates heat buildup much better, but is still expensive to manufacture. Design-wise, it consists of hydraulic, 2-cylinder, self-energizing, self-adjusting, twin disc units (see illustration). Six steel balls, $\frac{7}{8}$ -inch in diameter, are located in ramped grooves between the discs. Rotation of the discs by the hydraulic cylinders results in the balls climbing their ramps, causing the discs to separate, contacting the brake housing and resulting in a powerful and light-pressure stop.

While a lot of money and research has gone into the development of this brake, and the manufacturers seem bent on sparing no expense trying to sell it to the public thru various advertising mediums, it has too many inherent limitations to be considered the standard of future design. As stated before, it is rather expensive to produce and maintain. It requires the use of present inadequate lining material and above all is still affected by excessive heat buildup not only in efficiency, but in internal deterioration.

Other disc brakes undergoing development such as the Catton brake (MOTOR TREND, Oct. '53) are somewhat similar to the Lambert brake and they, too, while superior to our present production types, have the same basic limitations which confront the Lambert design. What, then, is the next step?

WEIGHT TRANSFER DURING TYPICAL STOPS



CONTINUED

3 FUTURE DEVELOPMENTS

Engineering-wise, the most promising design for future production to date is the multiple-spot brake. Its utter simplicity and ease of maintenance justify the tremendous metallurgical research that must be done before it is unquestionably accepted by the automotive industry.

In principle, this brake utilizes a steel plate or disc attached to the wheel with several sets of friction pads set in pairs on each side of this disc (see Spot Brake Principle Drawing). These pads are pressed against the disc by hydraulic rams (cylinders) built into the pad housings. When the brake pedal is pressed, the pads are forced against the revolving disc by the hydraulic rams; it's like pinching your thumb and forefinger. The resultant friction between the pads and the steel disc will stop the car.

This brake is superior in most respects to our present shoe-drum type, especially since heat expansion has no detectable effect on pedal travel. Unlike drum brakes, stopping pressure is exerted on the sides of the discs only. (See drawing illustrating heat expansion.)

A spot brake would require no housing other than a small deflection plate, and could easily be made self-adjusting. To combat heat transfer to the hydraulic rams, the pads could incorporate an insulation break on the ram end. Aircraft and race cars have used these brakes quite successfully for a number of years. They have several disadvantages, however, and that's where the metallurgists can help. These brakes have a tendency to squeal, wear friction pads out too fast, and generally have a hard pedal action due to low pad area to friction ratio (to retard rapid pad wear). Disc distortion thru frictional heat is also common here.

While the problems to be solved appear to be many, such is not actually the case. We have at hand the answers to quite a few. For example: Metallurgical engineers can undoubtedly produce friction pads and discs that won't distort, squeal, or produce rapid wear even in conditions of sand and mud. Ice guards or sleeves will prevent pads from locking due to ice accumulation; hard pedal can be overcome by incorporating a power assist as an integral unit similar to the Dunlop racing brake. Last but not least, since some fade is desirable at the very end of a hard stop to prevent wheel lockup, some method would have to be utilized to make these super disc brakes less sensitive. For this feature, brake engineers could utilize the aircraft industry's "no-skid" principle. This would allow enormous friction pad pressures at the beginning of a panic stop, and then automatically meter this pressure to prevent wheel lockup at any time.

Heat, as such, would have no appreciable effect on this brake provided it was engineered, within present know-how, to accommodate it.

A new development, while not a brake as such, would quite possibly be a definite asset to this or any brake system. It is a radar-controlled braking device which automatically stops a car when an obstacle gets in the way. Aided by a radar antenna across the front of a car, electronic impulses constantly guard against collision. If these impulses are reflected, the car slows down or stops according to how near the danger is. The sensing range of the radar brain is governed by the car's speed: The higher the speed, the longer the range. For passing other cars, a special accelerator temporarily cuts out the device. The unit doesn't operate under 10 mph, so it

won't interfere with ordinary parking.

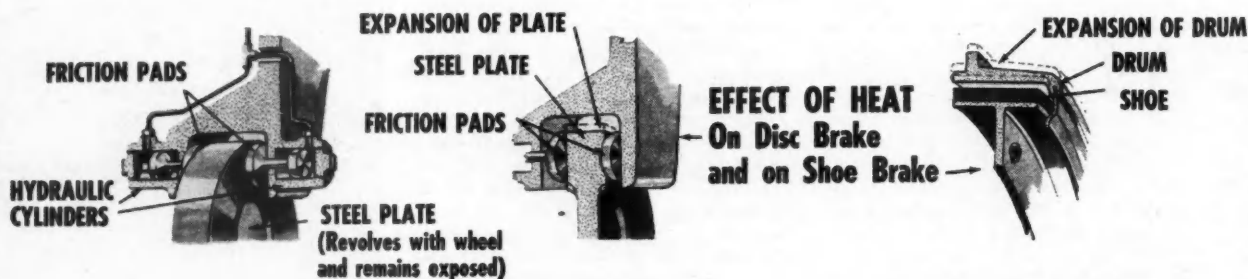
There are other approaches being made to this brake stalemate. Unfortunately all must overcome the same basic problem that all brakes have—HEAT!

A British development, soon to be publicized, involves hydraulic turbine brakes. The whole car would be operated by 4 oil turbines, one at each wheel. Power is supplied by a conventional engine which operates an outsized hydraulic pump. Thru the use of a reservoir, accumulator, metering jets and oil lines, hydraulic fluid is pumped to each wheel rotor under high pressure (similar in principle to a fluid transmission). This pressurized oil, acting against vanes, produces rotary motion, thereby turning the wheels. By reversing oil flow, braking action (reverse action) is accomplished. The system can be made quite efficient as evidenced by the universal acceptance of today's fluid couplings. There is one big disadvantage, however, which has taken many months of research to overcome, that of frictional heat. A super efficient oil cooler will help but heat is still somewhat of a problem under certain conditions with this British development.

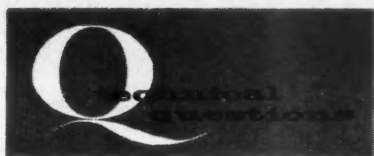
Electric and air brakes, as such, operate the same as our present production setup, except that air or an electromagnet substitutes for the conventional hydraulic system of shoe actuation. Hence, these types contribute nothing to the basic problems to be overcome.

Research and engineering will continue and will provide the ideal automobile brake with practically no limitations in the not-too-distant future. In the meantime, remember your present brakes *do* have limitations. Don't exceed them . . .

—John Booth



SPOT BRAKE PRINCIPLE



Q. How much can I safely mill from the heads of my '52 Cadillac and what will be the compression ratio? Will the rods and bearings stand the extra pressure? *H. A. Fullerton, Millington, Tenn.*

A. You can safely mill about .040-inch for a compression ratio of about 8 to 1 (if you mill more than .040 you are apt to have trouble holding gaskets). The connecting rods and bearings are husky enough to take the higher pressure.

Q. I would like to see some 2-cycle engines in American cars. Is there any particular reason why we don't have them? *Ralph Morgan, Cleveland, Ohio.*

A. Two-cycle engines are somewhat more sensitive to carburetion changes than 4-cycle engines. They must also have crankcase compression, a blower, or some other type of pressure system for getting the explosive mixture in and burnt gases out of the cylinder, although it would seem that 2-cycle engines have enough advantages to permit their use in some domestic passenger cars.

Q. I would like to get better than the present 13.5 mpg with my '55 Fordomatic. I do mostly city driving. What will help? *K. R. Simms, Dayton, Ohio.*

A. Be sure your car is in tune for maximum performance. Watch your driving habits—avoid "jackrabbit" starts and constant pumping of the accelerator pedal, and remember that you can't expect as much economy with an automatic transmission as with a standard gearbox.

Q. I have been encountering a dead battery when I attempt to start my car ('50 Olds) in the morning. The battery is fairly new and the generator is charging. *J. R. Oldham, Tulsa, Okla.*

A. One cause (there are many possible ones) could be that the regulator contact points are sticking and discharging the battery when the generator is not running. This is especially apt to happen at night when there has been a heavy load on the electrical system. Ammeter will show a full discharge with all switches off if current regulator is sticking.

Q. After a recent overhaul my '53 Plymouth runs worse than ever. Everything is set up according to the book, but the engine seems to be running lean all the time. *O. L. Morton, Spencer, Iowa.*

A. Check for air leaks around the intake manifold and carburetor flange.

Q. Aside from different torque requirements, is there any difference in the installation procedure for sparkplugs in aluminum and cast-iron cylinder heads? *Bob McCoy, Downey, Calif.*

A. There is danger of stripping threads in the aluminum head, so be careful! Don't use lubricants because they interfere with heat transfer. Plugs should be tightened in aluminum heads while the engine is cool.

The MT staff enjoys answering your letters, but recently there has been such a deluge of correspondence that we cannot personally do so. Knowing you would prefer that we not neglect the magazine, we have instituted a policy of answering letters *only* in the Technical Questions column.

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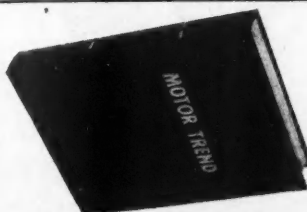
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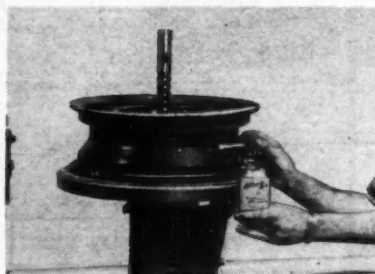
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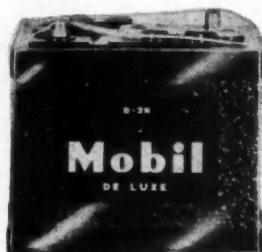
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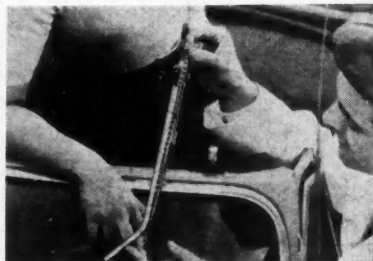
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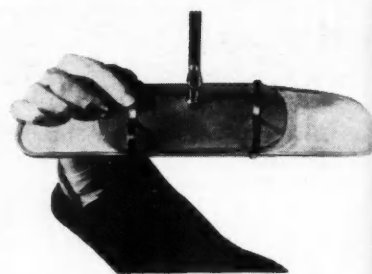
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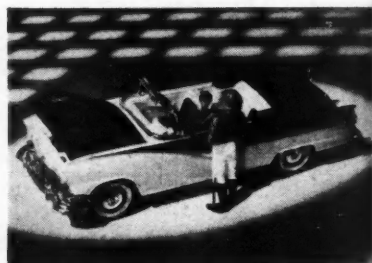
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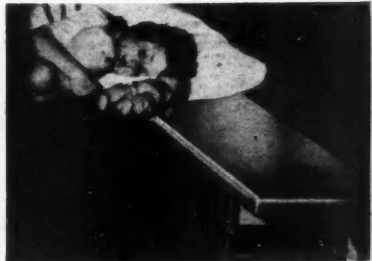
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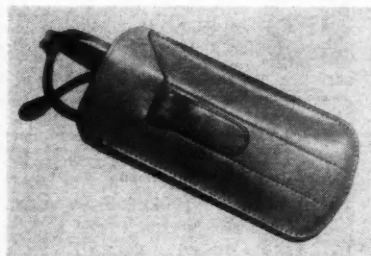
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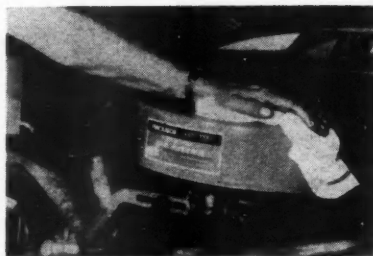
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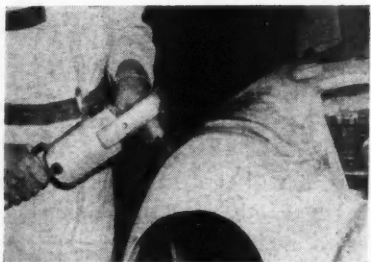
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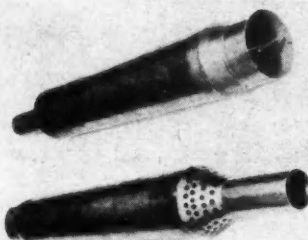
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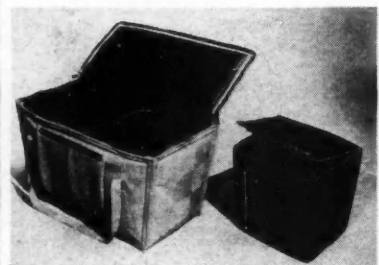
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SELL

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'24 CADILLAC Model 63-D touring. New black paint, plating & uph. Needs little work to be fine collector's item. Best offer around \$1500. W. Renz, 115 Linden Dr., Cincinnati 15, Ohio.

'55 FORD THUNDERBIRD. Red body, black conv. top, o.d., r & h, power brakes, engine dress-kit. 5000 mi., better than new. \$2900. Ralph Nieklar, 618 Martin Ave., Bucyrus, Ohio.

CLASSIC CAR Sales Catalogs: Packard, Chrysler, Lincoln, Cadillac, Pierce-Arrow, orphan & foreign cars; minimum \$5 each. Also MoToR (N.Y.) Annual numbers; details for large, stamped, addressed envelope. A. E. Twohy, 400 N. Kenmore, Los Angeles.

'36 AUBURN Supercharged Speedster. 100% orig., but not restored. 2-speed rear end, new 6-ply tires. Runs good. Stored in Calif. M. J. Reisch, P.O. Box 1223, Springfield, Ill.

'55 LINCOLN Model K V-12 7-pass. phaeton. New top & tires; complete engine overhaul. Body, uph. in exc. cond. \$1200 or best offer. Sherrill Sherman Jr., 5 Sherrill Lane, New Hartford, N.Y. Phone: UTica 3-9757.

'17 DODGE. Completely restored. 15-coat dark blue lacquered body, black fenders. Has won several performance ribbons; handles beautifully. Deliver 300



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'36 PACKARD 120 Dietrich conv. 4-dr. sed. Exc. cond.; very unusual model. \$475 or best offer. Pix 25¢. P. J. Sullivan, 109 Beacon, Greenfield, Mass.

'51 RILEY 2.5 liter 5-pass. conv. Superb lines, black with ww's. Body & top exc., recent engine tuneup. \$1600. Vernon Wisdom, 15 N. Ashby Ave., Livingston, N.J.

'31 CADILLAC V8 conv. sed. Engine, tires, top, paint, leather uph. in exc. authentic cond. Classic trophy winner; restored 2 years ago. \$1500. H. L. Franklin, 10333½ Caton Ave., Elmira, N.Y.

'53 PLYMOUTH Hy-Drive training car. Dual: steering wheel, brake, clutch, accelerator. Other extras. Fine cond., exc. for teaching automatic or conventional shift driving. Frank J. Faia, 160 Torrington Heights, Torrington, Conn.

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'33 AUBURN 8 phaeton in running cond. but unrestored. 6 wheels, dual ratio. Needs radiator core & battery; body poor. \$85. H. Denhard, R. D. 2, Greenville, N.Y.

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'41 LINCOLN CONTINENTAL Mark I cpe., with Cadillac ohv engine. Superior cond., new ww's. Can be inspected at local Lincoln garage, where stored. \$1375. Dr. John F. Pember, 508 W. Milwaukee, Janesville, Wis.

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'37 BUICK Roadmaster 4-dr. conv. Partially restored; needs some uph. work, but no body work. R & h, sidemounts, new tires, exc. top. \$375. Bob Stare, Mr. Horeb, Wis.

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'37 MERCEDES Type 170. Extremely rare. Engine & access. overhauled by Reindl. Needs body & interior



work. \$500 or trade for antique. Robert J. Gottlieb, 629 S. Hill St., Los Angeles 1-4. Phone: TRinity 4844.

PACKARD Super 8 deluxe conv. phaeton, Dietrich body. Fully restored; perfect running cond. \$1050 cash & untold labor of love invested. Consider any fair offer. Lee Reeder, 1012 Baltimore Ave., Kansas City 5, Mo.

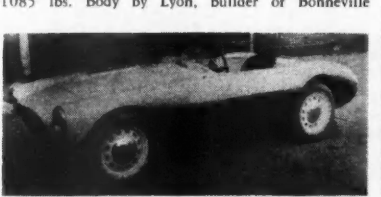
'07 MAXWELL 2-cyl., complete with brass radiator, carbide lights & bulb horn. Mint cond., runs perfectly. C. W. Bernsmeier, Box 203, Kamrar, Iowa.

'27 STAR touring. 23,000 actual mi., last licensed in 1937. Exc. leather uph., new tires & distributor. Further information on request. \$550 or best offer. J. K. Cutlip, Rt. 8, Box 562, Olympia, Wash.

'55 VW SUPERCHARGER (Arnold Corrie). \$100 f.o.b. Dismantling Jaguar Mark VII sed. 1 Jaguar Mark VII engine; 2 Jaguar XK-120 engines. Nephth Auto Co., Traffic Circle, Latham, Albany, N.Y.

'34 HUDSON 8-cyl. club sed. 42,000 orig. mi., mech. good. Still have owner's manual. \$225. Chuck Holmes, 2507 Marine Ave., Stockton 4, Calif. Phone: HO 6-9845.

FIAT "Mille Miglia" SLR rdstr. 10:1 c.r., 1221 cc, 1085 lbs. Body by Lyon, builder of Bonneville



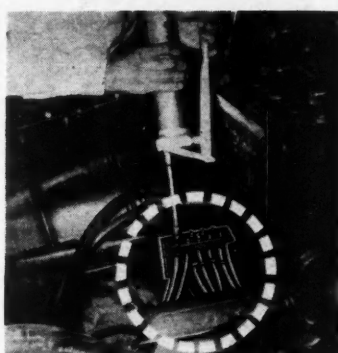
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'29 DODGE Senior 6 rdstr. Stored '32-'50. Exc. mech. cond., orig. black finish, wire wheels, new tan top & covers for 2 side-mounted spares. Attractively priced. Owen Hoyt, P.O. Box 47, Darien, Conn.

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'35 AUBURN 851 Supercharged conv. phaeton. Exc. cond. \$800 cash. John Pigeot, 4906 Ravenna, Cincinnati 27, Ohio. Phone: BRamble 1-7923.

PARTS: Continental, Classic Lincoln, Nash-Healey. In restoring my cars I've corresponded coast-to-coast with hundreds of parts & information sources, owners, etc. Printed address list \$2. James Yule, 36 Trent Rd., Philadelphia 31.

'38 MERCEDES-BENZ 220 conv. Exc. engine, good ww's, independent rear wheel suspension, pressure lubricating system. Needs new top & minor body work. \$700 or offer. Eugene S. Brooks, 524 Springside Dr. SE, Atlanta 15, Ga. Phone: MU 8-5341.

'35 FORD phaeton. New paint & chrome. Exc. engine, hydraulic brakes, Columbia diff. \$800 or best offer. Delbert Englerth, Rt. #2, Hastings, Mich. Phone: 4-6712.

'28 WHIPPET 4-cyl. 4-dr. sed. Body & engine nearly orig., can easily be restored. Running cond., not beat up. Have plenty of spare parts. Best offer. Winthrop Lee, 6255 Carpenter Ave., North Hollywood, Calif. Phone: SUset 3-2319.

'29 LA SALLE 5-pass. cpe. Orig. paint, uph. good, tires good. Must see to appreciate. Best offer over \$300. Peter C. Messuri, 513 W. Main St., Rockaway, N.J.

'31 AUBURN 898-A conv. phaeton. Fine classic, rebuilt Lycoming engine; spare head, manifolds, carbs, radiator, transmission, headlights, etc. \$595 or best offer. Pix 25c. W. L. Mraz, 17 Dogwood Rd., Morris Plains, N.J.

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'54 STUDILLAC. 2 4-barrel carbs, solid lifters, 9:1 heads, Mallory ignition, air intake on hood, heavy duty shocks, Lincoln 3-speed trans., o.d. \$2450. Ben H. Tongue, 10 Harvard Terrace, West Orange, N.J.

'55 AUSTIN-HEALEY 100. Red, detachable plastic top. Like new, 2500 mi., never raced. \$2450 firm, no trades. V. C. Parriott, 911 Glenmoor Lane, Glendale (St. Louis) 22, Mo.

'29 FORD rdstr. Restored May '54. New chrome, paint, top, tires. Excellent thruout. Shown in May issue Seventeen magazine. Best offer over \$500. R. G. Huber, 15 Emerson St., Clifton, N. J. Phone: LAMBERT 3-2917.

'48 LINCOLN V-12 4-dr. sed. Engine recently o'hauled, o.d. Orig. maroon finish. \$400. E. W. Skidmore, 411 Alston Bldg., Tuscaloosa, Ala.

'30 PIERCE-ARROW 130 Victoria. 99% restored. Power brake booster. \$1650. Walter B. Trepte, 758 Harbison Canyon Rd., El Cajon, Calif.

'34 PIERCE-ARROW 1240-A Victoria. Rebuilt Sea-grave V-12 engine, new glass, top, tires, radiator. Needs body work & paint. \$850. Walter B. Trepte, 758 Harbison Canyon Rd., El Cajon, Calif.

'54 CADILLAC—Brokaw Custom conv. Total investment \$10,900. Diamond-rudded dash knobs, interior & exterior exquisitely redesigned. Pix, details, 25c. Best offer over \$8000. John A. Stryker, 4604 E. Lancaster Tr. W. Worth, Tex.

'54 TRIUMPH TR-2. Like new, low mileage, never raced or wrecked. Wire wheels, heater, turn signals, tonneau cover. \$1725. Russell Peel, 320 N. 18th St., Richmond, Ind.

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'1995. J. Raymond Young, 199 Pleasant Ave., St. Paul, Minn. Phone: CA 2-6366.

'03 INTERNATIONAL 2-cyl. touring. Chain drive. Only 1 previous owner. Exc. cond., runs like new, orig. body, rt. hand drive. \$2500. Mrs. Harry L. Becker, Council Grove, Kan.

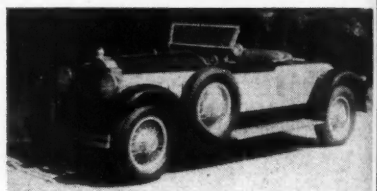
COLLECTOR'S ITEM—1920 Lincoln Motor Co. stock certificate, orig. Henry Leland issue. Also 2 8 X 10 pix of Leland Lincoln. Limited number. \$2. Wylie S. Boley, 11707 Mendota, Detroit 4, Mich.

'41 LINCOLN CONTINENTAL V-12. Black. R & h. Exc. cond., 68,000 actual mi. \$1000. Felix Pozzi, Indian Neck Ave., Branford, Conn. Phone: Hubbard 8-1580.

'30 MARMON Series 78 sed. Side mounts, luggage rack. Licensed & running. \$200. W. R. Purcell, Box 53, Ferris, Tex.

'41 AMERICAN BANTAM conv. cpe. Good cond. thruout. \$125. Pix 2 for 25c. Also used Austin & Bantam parts & catalogs. William Todd, 91 Willow Ave., Cornwall, N.Y.

'29 PACKARD 640 rdstr. Completely restored, except top & rumble. Engine o'hauled, new battery,



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'34 PACKARD Standard 8 4-dr. sed. Orig. thruout. Side mounts, wire wheels, 6 tires. Engine & body in exc. cond. Needs uph. & top. Best offer. W. A. Reed, 5102 W. 121st St., Hawthorne, Calif. Phone: AU 6-8547.

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'39 CADILLAC 75 Fleetwood 7-pass. sed. 70,000 mi.; exc. cond. 7 6-ply tires. Used by undertaker. Best offer. Donald A. Stevenson, 6022 Edmund St., Philadelphia 24.

'37 LINCOLN K Brunn touring cabriolet. Rare model, all orig., elegant thruout. Front view, black leather top, Bedford cord, leather combination interior. Make offer. George P. White, 1628 Vallejo St., San Francisco 23, Calif. Phone: OR 5-5824.

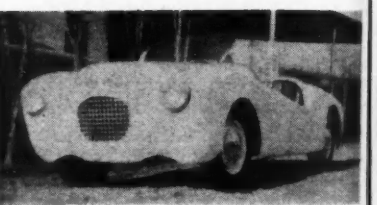
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perf. cond. Used as demonstrator. \$3700. Will con-
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Mitchell, Ky. Phone: ED 1-1915 or AX 1-1200.

'47 LINCOLN CONTINENTAL htdp. Exc. cond.
'52 Cad engine. With engine installed—\$1695;
without—\$1260. Will take '32 Ford hotrod in
trade. Al Enderle, 14192 S. Yorba St., Santa Ana,
Calif. Phone: KImberly 2-0204.

'55 BMW 502 V8 sed. Rolls-Royce quality, un-
usual, desirable, in beautiful cond. 9000 mi. Will
take part trade. L. L. Lacer, 219 N. Jefferson,
Junction City, Kan.

SWAP

'33 PACKARD sed. Good cond., complete, unre-
stored. Will trade for Hi-Fi or photo equipment,
guns, what have you? Harry Van Tuyl, 821 Hyatt
St., Janesville, Wis.

CORD 810 chassis. All new, complete, except body.
Licensed, drivable. Swap for sports or classic of
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son, Ind.

WANTED

PIERCE-ARROW. Will buy several in orig. clean
cond. Interested in all models. H. Reeves, Jr., P.O.
Box 3385, Orlando, Fla.

MG—about \$550. Will take car that needs work—
but NOT a dog. Write details to T. Chester, Box
116, Carteret, N.J.

CHRONOGRAPH for Duesenberg Model J. Black
face with white numerals. D. V. Carter, 4307 W.
Lawther Dr., Dallas 18, Tex.

SHOP MANUAL for '34 Packard Super 8 Models
1103-5. Must include wiring diagram. Willing to
pay for copying. Royale R. Crabtree, Box 616,
Route 11, Pine Bluff, Ark.

PARTS FOR '20 MARMON Model B-34: 3 hub-
caps with emblem, left rear hub with axle, complete
wire wheel or lock rim. J. Ashton Majeau, 2339
Palmer Ave., New Orleans 18, La.

'47-'48 FORD Sportsman conv. Will pay good price
for clean, orig. car with good wood. Any leads
appreciated. Wade K. Cheyney, 645 S. Quentin,
Wichita, Kan.

'48 LINCOLN CONTINENTAL htdp. Must be in
perfect running cond. and exc. orig. cond. inside
& out. Write, stating color, price, & other par-
ticulars. John Higginbotham Jr., 4236 Bordeaux,
Dallas, Tex.

RESTORABLE OLD CAR. Any make or model, for
about \$200 or less. Will travel. Any leads appre-
ciated. Howard Parrott, P.O. Box 92, North Fair-
field, Ohio.

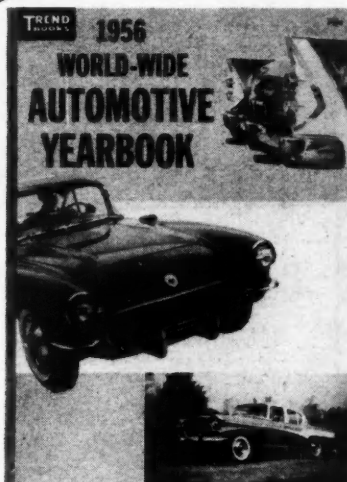
4 18-INCH WIRE WHEELS, 7 lugs for '29 Chry-
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switch assembly. Glen E. Shotola, 1681 S. Muskego
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Most good Americans may go to Paris when they die, but good American gourmets will settle for New Orleans



DUNCAN HINES
Suggests

SEASONED TRAVELERS who have journeyed thruout the United States have made this observation: "When you've seen one large American city, you've seen them all—the only exceptions are New York, San Francisco, and New Orleans."

Everyone may not agree wholeheartedly with this statement, but it is not hard to see why New Orleans should be included in this exclusive category. It has a distinctive and fascinating character that no other American city can duplicate.

Founded in 1718 by the French along the shores of the great land-locked lagoon, Lake Pontchartrain, it was taken over half a century later by the Spanish. By the time the U.S. acquired it in 1803 as part of the Louisiana Purchase, its French and Spanish character was already firmly established. The Creoles—descendants of these 2 early groups of settlers—still impose upon the city their love of good living and good food.

The Vieux Carré (Old City), known more commonly as the French Quarter, still looks much as it did over a century ago—except for the inevitable signs and displays to attract the tourist. The characteristic 2- and 3-story buildings in this oldest part of the city, adorned with lacy ironwork and flower-filled courtyards, form one of the most picturesque communities in the country. Its banquettes, or sidewalks, still echo with the quaint cries of the vendors of fish and pralines.

To most tourists, Louisiana means only New Orleans, and New Orleans means only the Mardi Gras. If you plan to visit the city during this spectacular pre-Lenten festival, your big problem will be accommodations. We strongly urge you to make reservations well in advance.

Places to Stay: There are 2 good motor courts on Chief Menteur Highway. **Anchor Motor Motel** (6131) has 38 units. Singles or doubles are from \$6 to \$7.50. The rates at the **Cedar Park Hotel Court** (5201), 55 units, single or double, are from \$7 to \$8.

Lamothe House, 621 Esplanade Ave., is an interesting 13-room house with antique furnishings. It includes a Continental breakfast in its rates. It is open from Sept. 1 to May 31. Singles are \$8; doubles, \$8 to \$12.

Places to Eat: In the French Quarter, there are several world-famous restaurants—Antoine's Restaurant, Arnaud's, Brennan's Vieux Carré Restaurant, Broussard's Restaurant, and Kolb's Restaurant.

A favorite place of the natives, outside the

French Quarter but with cooking "à la Creole" that is not duplicated in local restaurants, is **Corinne Dunbar** at 1716 St. Charles Ave. Lunch is from \$3 to \$4, and dinner from \$4 to \$5. It is open all year, except August, from 12:30 to 2 P.M., and from 6:30 to 8 P.M. It is closed on Sundays, Mondays, and Christmas. Reservations are needed.

There are very fine dining rooms also in the different hotels. The **Caribbean Room** in the **Pontchartrain Hotel**, 2031 St. Charles Ave., offers such specialties as lump crab meat au gratin, oysters bienville, trout venique, chicken chasseur and crepes soufflé. Prices are a la carte. Open every day from noon to 2 P.M., and from 6 to 9 P.M. Reservations are advisable.

The Knife and Fork Dining Room in the **St. Charles Hotel**, 211 St. Charles St., has been in existence since 1836. It has been modernized, of course, and the kitchen puts forth the famed New Orleans cuisine from 6 A.M. to 9 P.M. The waiters are courteous, and the prices are reasonable.

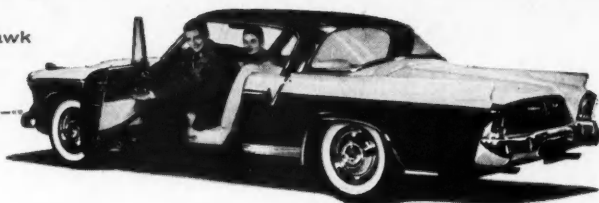
And, of course, there is the famous **Roosevelt Hotel**, with its **Blue Room** and other dining rooms. The **Jung Hotel**, with its 1800 modern rooms, also has ample dining rooms.

After a sumptuous feast, visitors gravitate to the excitement of Bourbon Street in the French Quarter, which is alive with lights. Happy revelers slowly make the rounds, drowned in the din of Dixieland jazz blaring forth from the night spots. Every night is a gay night here. Before making their way home, visitors and natives alike gather at the **Morning Call Coffee Stand**, which is a most fashionable late-evening coffee spa for reasons you'll understand.

If you can get away from the festive throng and you have a sweet tooth, visit **Pâtisserie aux Quatre Saisons** (Pastry Shop of the Four Seasons), 714 St. Peter St. No place to go for a full meal, it is one you shouldn't miss when you are in New Orleans. This place was opened as a hobby by a silver craftsman, and is like the old French patisseries which can still be found on the Continent. Tea, coffee, or French chocolate are equally excellent. Many varieties of pastries, ice cream and confections—all delicious—are served at prices which are moderate for such delights.

New Orleans is one place where everyone has fun. You, too, will leave it with the most pleasant of memories and remember it as one of the most delightful spots you have visited. (Next month—the Great Southwest.)

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Many thanks.

Many thanks.

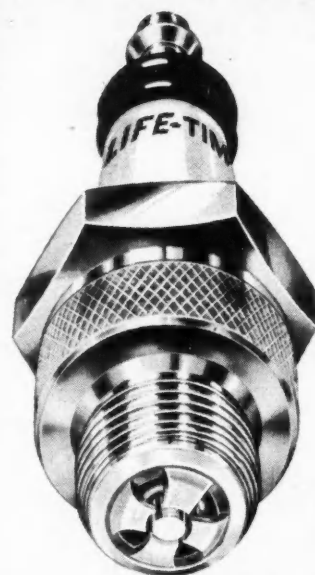
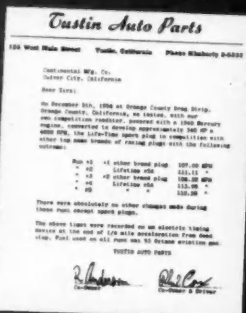
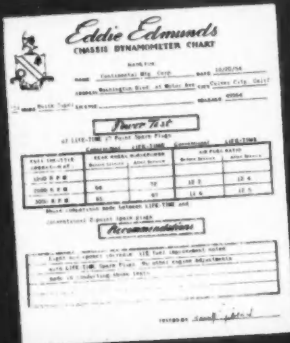
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